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PHRENOLOGY,

PHYSIOLOGY,

AND

KINDRED SUBJECTS.

BY

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OF NEW YORK,  
AMERICA.

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DEANSGATE AND RIDGEFIELD, MANCHESTER;  
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## PREFACE.

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EVERY human function is perfect when exercised in harmony with its primitive constitution ; but when perverted occasions suffering proportionate to the happiness its right exercise confers.

Pre-eminently is this true of the sexual function. It was instituted to perpetuate our race, but has been perverted to a depraved use, more, probably, than any other faculty, and occasioned more misery.

It is high time its ravages were stayed ; but who is there to come up to the "help of the Lord" and of humanity against this blighting curse? The pulpit—that ordained watch-tower of morality and exponent of sin—is comparatively mute concerning it, at least, touching its worst forms—an omission utterly unjustifiable. The medical profession, whose duty it is to sound the alarm and diffuse knowledge, is almost silent, yet pockets the wages of sins and sufferings which it should obviate. Lawyers live on the fees rendered by this propensity, more, probably, than from any other crime perpetrated by our fallen nature, besides being infinitely above (? below) attempting its remedy. The moralist is silent, and the philanthropist is dumb. Most of the self-constituted watchmen on the walls of the public safety are "dumb dogs," and seem afraid to touch this vile thing. A mere moiety attempt to arrest this mighty current, yet the aggregate effort is utterly insignificant compared with the evil. Nor can more be said of the mode. But not for this alone. None beard the lion in his den. Of the few recent productions on this subject none have effectually probed this festering boil to its core or anointed it with an effectual remedy. Nor CAN this be done but by understanding the PRIMITIVE CONSTITUTION of this element, and thereby the consequences of its perversion.

Phrenology mounts the breach. It describes the evil ; it weeps over its ravages ; it points out the remedy ; and the author claims to be its humble expositor. Long has he seen and sighed over this monster disease and wretchedness. He hoped to have escaped both the woe of silence and the odium of utterance by its effectual exposition from some other quarter. But he has seen nothing which did full justice to this subject. Not that he would disparage the earlier efforts of that noble apostle in this cause, Dr. Woodward, from whom he so often quotes. He was almost the first among distinguished men to open the battery of FACTS upon this enemy of all good. Above all praise are his noble efforts in this forlorn cause. But his "Hints to the Young" have not sufficiently explained the RATIONALE of the injury sensuality inflicts, or attempted to reach more than a single form of lust. Nor, even if it had, would this work be uncalled for ; because our thoughtless youth need "line upon line," and

the married require "precept upon precept." This work may find its way where his has not gone. "Facts, &c., to Young Men," we cordially recommend. They have done good; yet they occupy ground less comprehensive and scientific than that assumed here. Mrs. Gove has awakened attention to this sin and shame of too many of her own sex; yet we endeavour to grapple this goring monster "by the horns," and expose the WHY AND HOW of this frightful evil. To DISSEMINATE KNOWLEDGE is our object. INFORMATION is the required preventive. Our misguided youth dream not that they are sinning, nor suspect the direful consequences that impend, till their ruin is wellnigh complete—till their harque of life is stranded on the quicksands of inflamed passion, or dashed to atoms by the billows of lust in one or other of its forms.

The married, too, need warning. Thinking themselves entitled to a perfect glut of indulgence in wedlock they little suspect it is the cause of their physical diseases or mental alienations. Nor has the warning voice probably ever before been raised in their ears.

Let not the erring think that we come to scorn or deride. We proffer pity for your folly, and ointment for your self-inflicted wounds. So far from casting reproaches we would put you again on the feet of self-respect and the road of restoration.

Those who object to the presentation of this subject, or think it uncalled for, err in judgment. They may sit supinely if they will, and even hark, but shall neither hinder us from snatching from the fires of lust those half-consumed brands within our reach nor wrest from us the joys of doing good or the thanks of suffering humanity.

## INTRODUCTION.

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"THE crying sin of our race," says our author, "in every age, and in almost every nation under heaven, has been excessive or unlawful indulgence in sexual pleasures." He gives a melancholy account of the prevalence of this form of evil in his own country. It would appear from his statements that in some cities of America this evil prevails to an alarming extent. Even public prostitution is now no longer unknown in the cities of the United States, while *private* or *select* prostitution is exceedingly common. He tells us that even pretended widows, who profess to live by industry, and who are members of churches, visit places of worship only to mark and entrap men by their looks and smiles and other wily arts. He speaks of *solitary* sexual crime, or self-abuse, as still more prevalent: as pervading, in fact, every nook and corner of the land. He assures us that the remarks which he makes on the prevalence of this form of crime, are grounded on facts which have come to his own knowledge. His professional practice and extensive observation, he says, give him access to sources of information, and to individual histories, which extort the reluctant declaration that people in general have not the faintest conception of the fearful extent to which this vice is practised.

It would seem from some of our author's statements that certain forms of sexual vice prevail to a greater extent in the United States than in our own country, especially self-abuse. The facts he gives on this subject appear almost incredible. He assures us that if we were to catechise every boy we met on this subject we should find that nine in every ten, from eleven years old and upwards, and that one-half of those from seven to eleven, are guilty of this unnatural crime, and that of those still older the proportion is still greater. He assures us that he himself has known hundreds ruined by this crime before they were thirteen years of age. He says that the schools are especially nurseries of this vice, and that it is often practised by scholars in companies. He assures us that in making these statements he speaks only what he *knows* and testifies what he has *seen*.

In reply to those who think that nothing should be published on this subject for fear of corrupting the minds of youth, he quotes the words of Dr. Woodward, who says, "I have never conversed with a lad twelve years of age who did not know all about the practice and understand the language commonly used to describe it." Our author assures us that this Dr. Woodward is a cautious and discreet man, and one of the best authorities that he could quote. Dr. Woodward has published a work on the subject, entitled "Hints to the Young." W. C. Woodbridge, the celebrated advocate of education in the United States, speaks of this solitary vice as "spreading desolation throughout our schools and families, unnoticed and unknown." Mr. E. M. R. Wells, a distinguished teacher in Boston, gives similar testimony to the prevalence and mischievous influence of this vice. The higher schools and colleges, Mr. Fowler says, are more afflicted with this vice than even the lower schools.

The following letter was written by Mr. Fowler in 1841, to the author of "Facts and Important Information for Young Men."

"Philadelphia, Sept. 8, 1841.

"Mr. G.—Dear Sir: Your letter and book are received. I am right glad you have taken hold of this subject. Much as reform is needed in other matters, no reform—no, not even that in reference to alcoholic drinks—is demanded half so much as reform in reference to this solitary vice. To this conclusion my practice, which, you know, has not been limited, and my means of information, which have been varied and extensive, have led me reluctantly but inevitably. And what is most deplorable

unlike other forms of vice which prey upon the coarse and the vulgar, this is even more likely to attack those of fine feelings and ardent temperaments, and otherwise unblemished morals. They are not aware that this is one of the greatest sins they can commit.

"I have of late seen this evil to be so alarming, and its ravages on the intellect, the morals, and health, so fearful, that I have contemplated preparing a work on the phrenological organ of Amativeness, to consist mainly of the physiological, intellectual, and moral effects of this vice; but I rejoice that you are before me in this matter.

"I could give you a vast number of facts that have come to my knowledge. A few days ago a young man who had been a *gentleman* called upon me, in a state of mind and body truly wretched—the mere wreck of a man. His head was affected and painful, the back part of it in particular, and his mind was literally distracted with those horrors which this indulgence always produces. His mind was flighty, his appetite destroyed, and the tones of his voice the very personification of grief. Both his head and his conversation gave evidence of superior talents in ruins. Fifty times in the course of an hour did he exclaim, 'O, my God, what shall I do? I am mad! I know it. What can I do?'

"In laying open his case, in order that I might give him advice, he mentioned his having been much addicted to this habit, and would often bring his hands to these parts—an invariable sign of their being in a fevered state, either by secret indulgence or indulgence with the other sex. His anxiety was: to escape the mad-house and regain self-control, because on this he had always prided himself. On inquiring of him as to the prevalence of this evil he said that nine-tenths of his acquaintances were given to it.

"On inquiring of one of the physicians in Brockley Almshouse, Philadelphia, as to the number of its inmates who were brought into the insane department by its instrumentality, he started at once upon his feet, and spoke with great energy and emphasis of its influence in inducing derangement, and narrated several very affecting cases. In my visit to that institution, a few days ago, I saw several insane patients who were brought there by this vice, and whose hands were tied, to prevent self-pollution.

"If it is facts that you want I assure you they exist in abundance in every degree of aggravation. Let the young be warned, for most of its victims fall a prey to it *ignorantly*. Let us have light, especially in our *institutions of learning*; because there the absence of exercise, the seclusion from female society, and the character of their studies, especially those that cultivate (vitate) the imagination, all tend to induce and increase the evil."

The following is from Dr. Alcott:—

"We believe that there is not a town in New England whose bills of mortality, from year to year, are not greatly increased by this fearful and wide-wasting scourge. We believe that a majority of our diseases and infirmities—our aches, our pains, and our deformities, too—after the age of puberty, are either induced or aggravated in this way."

The following is from Dr. Snow, of Boston:—

"Self-pollution is undoubtedly one of the most common causes of ill health that can be found among the young men of this country. From the observations that I have been able to make I am satisfied that the practice is almost universal. Boys commence it at an early age; and the habit once formed, like that of intemperance, becomes almost unconquerable. In boarding schools and colleges it obtains oftentimes without an exception. Hence the many sickly students, and the many young men of the most brilliant and promising talents, who have broken their constitutions and ruined their health, as it is said, 'by hard study!'"

Mr. Fowler adds that even females do not escape the infection of this horrible vice. He says:—

"They may be less infected, yet women, young and modest, are dying by thousands of consumption, of female complaints, of nervous or spinal affections, of general debility, and of other ostensible complaints innumerable, and some of insanity, caused solely by this practice."

On this point Dr. Woodward again thus speaks out :—

“About two years ago a young woman, aged twenty-two years, came under my care, in a state of the worst form of insanity. She was furious, noisy, filthy, and, apparently, nearly reduced to idiocy. She had been in this condition many months, and continued so for some time while with me. She was pale and bloodless, had but little appetite, frequently rejected her food, and was reduced in flesh and strength. Finding her one day more calm than usual I hinted to her the subject of masturbation (self-pollution), and informed her that, if she practised it, she could not get well—if she abandoned it, she might. She did not deny the charge, and promised to follow my advice strictly. In two or three weeks from this time she was perceptibly better; her mind improved as her health gained; and both were much better in the course of a few weeks. The recovery was very rapid in this case. At the end of six months she had excellent health, was quite fleshy, and became perfectly sane, and has continued so, so far as we have known, to this time.

“Not long since a case of periodical insanity came under my observation, the subject of which was a young lady. The disease had existed ten years without any material change. Suspecting that masturbation was the cause I directed her mother to ascertain, if possible, and inform me. Some months after I received intelligence that my patient was better, and that my suspicions of the habit were confirmed by the observation of her friends. The case is not without hope, although of so long standing, if the cause is removed.

“Three or four similar cases have been under my care recently, in which individuals of the same sex have been reduced to the same degraded state. They are now, and will continue to be while life remains, a melancholy spectacle of human misery—without mind, without delicacy or modesty, constantly harassed by the most ungovernable passion, and under the influence of propensities excited to morbid activity by a vice far more prevalent than has been supposed. A large proportion of the ‘bed-ridden’ cases, of which there are so many in the community, will be found to have originated in this cause.”

Mrs. Gove, in her “Lectures to Ladies on Anatomy and Physiology”—subjects which every woman should understand—thus discourses concerning its prevalence among her sex :—

“About eight years since my mind was awakened to examine this subject by the perusal of a medical work that described the effects of this vice when practised by females. This was the first intimation I had that the vice existed among our sex. Since that time I have had much evidence that it is fearfully common among them.

“There is reason to believe that in nine cases out of ten those unhappy females who are tenants of houses of ill-fame have been victims of this vice in the first place. Were this the peculiar vice of the low and vulgar there might be more excuse for the apathy and false delicacy that pervade the community respecting it. But it invades all ranks. Professed Christians are among its victims.

“Our boarding and day schools are sources of untold mischief. A short time since two sisters, ladies of the first respectability, informed me that, when very young, they were put to a female boarding-school where this vice prevailed, and the practice was explained to them. They were blessed with parents who were willing to converse with and warn their children, and they escaped the contamination.”

One of her correspondents writes that she “became addicted to solitary vice about the age of nine years.” “Facts and important Information to Young Women, &c.,” a work which we recommend cordially, details many instances illustrative of the prevalence of this vice.

“My own practice and observation,” says Fowler, “as to its prevalence confirm and considerably exceed these statements. I have one *infallible* test, which I often apply without the knowledge of its subjects, and thereby detect many who little suspect me of knowing their secret practices. Called to prescribe for a young woman, and knowing from this sign what caused her complaint, I sought an interview with her mother, to whom I disclosed my suspicions. She said she thought her daughter innocent, but knew she had slept much with an elder girl who was addicted to it. I asked her what she knew concerning its prevalence. She said a girl in her neighbourhood had just

died from its effects, and that the female operatives in a neighbouring factory practised it almost universally, as she learned from one of them. She named other factories in which it was hardly less prevalent. I know little girls below their teens who thus abuse themselves, and, from my application of the test named above, am constrained to believe the practice alarmingly extensive among the fairest portion of creation. I sicken at the thought. Oh, woman! who hath thus bewitched you that you should thus depart from the paths of delicacy, and health, and happiness!

“But I forbear, simply alleging that the plague is all around and all among us. None of our daughters or sons are safe, however carefully we may guard them, till we cast out this accursed plague from among us. And being a *common* enemy it can be extirpated only by *community* of effort. Single hands can do but little. Nothing but *combined, concentrated, and long continued* exertion can avert the widespread and insidious contagion. Come, up and be doing, every lover of his race, every lover of *his own dear children!* Even for their sakes, if on no other account, gird yourselves to this disagreeable but indispensable work of philanthropy and reform, till we drive this common enemy from our midst.”

We have reason to believe that this form of crime prevails to a considerable extent in our own country. We shall not enter into the particulars on which our painful belief is grounded; but we know enough to satisfy us that instruction on this subject is exceedingly necessary. We have little or no apprehension that the work we are laying before the public will prove injurious to any, while we have, on the other hand, the fullest assurance that it will prove beneficial to multitudes. The unhappy creatures who indulge in this vice have not, in general, the least idea of the injury they are doing themselves either in body or in mind, and we see no other way by which they can be instructed but through the press. *Preachers* will not meddle with such matters; and parents are unwilling to speak on the subject to their children; and even the public lecturer is afraid to notice it. The press alone remains, and great indeed would be our guilt should we refuse to employ the press in such a work while so many are suffering so grievously for want of the instruction which we are able to impart.

We expect to be abused by some for laying this work before the public; but we are justified in our own mind; and we have no doubt that if our readers will give the subject due consideration, they will see, in the end, that we rather deserve their thanks for what we are doing than their rebukes.

# AMATIVENESS.

## CHAPTER I.

### EFFECTS.

Happiness is the one constitutional object and product of every function of our being. Yet every function is capable of a *painful* action. Nor are these two forms or products of the action of our respective functions, *chance* comers and goers, but all are governed by inflexible *law*. That function is necessarily pleasurable which harmonises with the primitive constitution, and fulfils the legitimate design of the faculty exercised, and is *normal* or *natural*. The action of any function is painful which *violates* or *departs* from its normal primitive institution or end, and is called *abnormal*, which means *unnatural*.

Of course these natural axioms, apply with significant emphasis to the element before us. To fulfil the legitimate ends for which this was ordained is to be happy in its exercise; not to fulfil it, and especially to depart from it, is to suffer in and by its exercise. Now excessive indulgence—promiscuous and matrimonial, and solitary—violates this function and causes pain. We come now to consider the *evils* consequent on its perversion.

To enumerate the tithes of the evils consequent on excessive sexual indulgence, whether promiscuous, or matrimonial, or solitary—all one in substance—would fill a world with volumes, as it already has with woes, and keep it full. We shall develop first some of its destruction of health and generation of physical evils and sufferings; next, its destruction of the moral tone or stamina, and its production of propensity and depravity in forms without number, and aggravating beyond description. To enumerate a few.

### IT INJURES HEALTH.

To dwell here on the importance of health as a means of enjoyment, and its essentiality to every form and degree of happiness, would take us too far from our subject. Suffice it to say that **WHATEVER** impairs the health or engenders disease, is proportionally fatal to happiness and prolific of suffering.

Now that excessive sexual indulgence injures the health, and in a pre-eminent degree, appears from the following, among its other effects.

### IT EXHAUSTS THE BODY.

Those at all acquainted, experimentally, with the nature of this function, need not be told that few things are equally exhausting; and readers of "Love and Parentage" will remember our exposition of the *cause*, namely, it was instituted to transmit the entire mentality and physiology of parents to offspring; and since the latter take on them the existing conditions of the former, and these only, it becomes absolutely necessary that this function should call forth, in a powerful degree of action, all the mental, all the physical, functions of parents, as the means of their transmission to

offspring. Now this intense and simultaneous action of all the functions of our nature in this indulgence, of course, proportionally *exhausts*. A hard day's work does not equally prostrate and fatigue. The fallow buck, after this passion has subsided, is so tamed down by exhaustion that he can be approached and almost caught by hand.

#### IT ENFEEBLES THE MIND.

Frequent indulgence in any of its forms will run down, and run out, anyone, of either sex. Those who would write, or speak, or study, must either forego excessive indulgence, or intellectual exertion, or *elææ dic*. Powerful constitutions will stand an immense drain before they finally break, but terrible indeed is the result.

Mere animal temperaments are less injured, because, by supposition, their vitality is abundant, and its drain by other functions is slight; nor do they enjoy this function as do those more highly organised, and hence are proportionately less exhausted. Such live, to be sure; so do brutes. Carnal, grovelling, sensual, low-lived *animals*, living mainly on a single pleasure when their nature serves up so many. Let such revel in lust, because capable of little else. But those highly organised must partake rarely, else it will excite to destruction, and proportionally exhaust. Besides, they can expend their less abundant, perhaps deficient, vitality to better advantage. Frequent indulgence must necessarily be lustful, and therefore debasing to their higher feelings. Those whose intellectuality and morality are feeble, may spend their surplus vitality on this passion with less injury, yet cannot cultivate their higher faculties while they thus revel in lust. Let such remain all animal and revel on. But for those who have already too little vitality to sustain their higher faculties—for *such* to rob all their nobler, god-like elements of vitality, just to spend it on a sensual, debasing passion, is physical, mental, and moral suicide. Red-faced, bloated, coarse-grained, gouty subjects—it matters little what becomes of them; but for light-built, fine-skinned, fine-haired, spare-built, sharp-featured, light-eyed persons, of either sex, to indulge, even in wedlock, as often as the moon quarters, is gradual but effectual destruction of both soul and body; because they already work off vitality faster than their feeble vital apparatus manufactures it. This excess of expenditure over supply occasions their sharpness. A surplus vitality would render them fleshy. Now to add the most powerful drain of all to their already spare supply must sooner or later, according to their vigour of constitution, render them *bankrupts of life*.

It will not kill you outright. It will first weaken the garrison of life, and thus open the door for disease to come in and attack the weakest part, and complete the work of death in the name of other diseases. As bees, by swarming too freely, leave portions of their hive unprotected, and thus allow the deposit of those destructive worms which a full supply of bees would have prevented, so this indulgence drains the system of vitality, and of course leaves the weaker organs especially debilitated, till disease, thus invited, sets in, destroys the feebler organs, and ends in death; attributed, however, to consumption, dyspepsia, gravel, nervous, heart, and other affections, according as this or that organ is naturally most feeble, but rarely to its true cause. Ask any medical man, conversant with diseases having this origin, and he will tell you that no other cause of disease equals this, either as to number, or aggravation, or difficulty of cure. Hear Dr. Woodward on this point:—

“That the evil is widespread and exceedingly injurious cannot be denied or doubted. A great number of the ills which come upon the young, at and after the age of puberty, arise from this habit, persisted in, so as to waste the vital energies and enervate the physical and mental powers of man.

“Nature designs that this drain upon the system should be reserved to mature age, and even then that it be made but sparingly. Sturdy manhood, in all its vigour, loses its energy and bends under the too frequent expenditure of this important secretion; and no age or condition will protect a man from the danger of unlimited indulgence, though legally and naturally exercised.

“In the young, however, its influence is much more seriously felt; and even those who have indulged so cautiously as not to break down the health or the mind, cannot know how much their physical energy, mental vigour, and moral purity, have been affected by ~~the~~ indulgence.

“No cause is more influential in producing insanity. The records of the institutions give an appalling catalogue of cases attributed to it.”



A doctor in Brooklyn thus writes to the author of "Facts, &c., to Young Men" :—

"Brooklyn, Dec. 19, 1840.

"In my own practice I think I have seen the following results of masturbation\*: Involuntary emissions, prostration of strength, paralysis of the limbs, hysteria, epilepsy, strange nervous affections, dyspepsia, hypochondria, spinal disease, pain and weakness in the back and limbs, costiveness—and, in fine, the long and dismal array of gastric, enteric, nervous, and spinal affections, that are so complicated and difficult to manage."

Dr. J. A. Brown, of Providence, writes to the same author as follows :—

"That it is an evil of vast magnitude no physician who has been in the habit of tracing *effects to causes* can for a moment doubt. I, sir, could tell of hundreds who labour under incurable maladies produced by this practice, and I do not believe that I have a better faculty for obtaining such information than many others, who are, and will be, dumb on this subject."

Another physician writes that "seven-eighths of all the bodily ills and diseases of the people are caused, or greatly aggravated, by self-abuse, or excessive legal indulgence."

Nor is this all, nor the worst. The loss of this secretion is the loss of *vitality itself*. We saw, in "Love and Parentage," that it embodied the very quintessence of parentage, in order thereby to impart this quintessence of parents to offspring. To dwell on this point, however important, is unnecessary, because so evident. Now it is a well-known principle of physiology that when any organ is especially overtaxed it robs the other parts of the system of vitality to supply its own taxation. Thus overloading the stomach causes mental lassitude and muscular debility, because the stomach withdraws energy from the brain, the muscles, and wherever it can find it, to enable it to discharge its burden. Now overtax this secretion and it withdraws energy from all the other parts to re-supply the draft. Doing this frequently diverts the energies permanently from the other organs to this. As those who get into the habit of being bled frequently soon get full of blood because they overtax the blood-manufacturing energies by this drain, so that an undue amount of vitality goes to blood; so the frequent withdrawal of this condensed vital secretion, causes a drain from all the other parts and organs to re-supply it, and thus frequent indulgence causes the very life's blood to run out thereat. Well has WISDOM said, "*Give not thy STRENGTH unto women.*" And he who does must expect to be weak everywhere else.

#### IT INFLAMES THE WHOLE SYSTEM.

But, great as is the evil, especially to growing youth, consequent on this drain of vitality, that *inflammation* always and necessarily consequent on excessive indulgence, in all its forms, is much more prolific of both disease and suffering. Whoever indulges often, and weekly is often, in wedlock or out of it, will experience an unnatural heat, tension, tenderness, irritation, swelling, perhaps soreness in these organs, of course resulting from inflammation.

The immediate cause of this inflammation is two-fold. First, intense action, in its very nature, engenders inflammation; and what action more intense and inflammatory than this? Secondly, in order to ensure intense action in this function, so as thereby highly to endow its product, a larger amount of *nervous tissue* is found ramified upon those parts of this apparatus more immediately brought into action than upon almost any other portion of the body. This contrivance is indispensable to pleasure, and this to the endowment of offspring. Nerve alone gives pleasure, but *inflamed nerve* gives pain, and pain proportionate to its quantity and the degree of inflammation. Now frequent action necessarily inflames, and thus both weakens these organs and engenders disease in them, and throughout the system. It fills the whole being, mental and physical, full of wild, excited, preternatural, irregular, abnormal, painful action. And inflammation thus caused is harder to be reached, and more difficult to be subdued, than disease of any other portion of the body; because, while inflammation of the lungs, of the heart, of the stomach, of the bowels, muscles, head, &c., can easily be reached through the intestinal canal, or else by external application, diseases of these organs, especially in women, can be reached or cured only with great difficulty.

\* Self-abuse.

We have seen that excess produces inflammation, particularly in these organs. Now inflammation, in its very nature, proportionally *weakens and destroys*. This law of organisation is too well known to require proof or illustration. Excessive indulgence, of whatever kind, necessarily inflames, and therefore weakens and diseases the sexual apparatus; and hence that falling of the womb, flnor albus, and other female complaints, as well as prostration, or pendency, or irritation, or priapism, or gonorrhœa, &c., of males, which excessive indulgence always and necessarily creates. Nor, once effectually impaired, does this apparatus ever fully regain its former tone and power. As with a dislocated joint, or affection of the stomach or lungs, slighter and still slighter occasions of disease renew the chronic complaint, so indulgence otherwise not injurious now renews the disease, and re-impairs the health, besides enfeebling both this function and its product.

Allow here a single remark relative to the effect of indulgence, whether promiscuous, matrimonial, or solitary, upon offspring. It was shown, in "Love and Parentage" that power of sexual passion contributed to the endowment of offspring, and its feebleness left them proportionally the less endowed. Now nature has provided for the retention of this secretion till the action and pleasure of this function rise higher and higher, and becomes most exalted prior to its discharge, in order that this condensation of energy and function may be imparted to offspring. Now frequent indulgence allows it to escape *prematurely*, or before this action rises to its highest pitch, and thus prevents that pleasure of its subject so essential to the endowment of offspring. Indulgence even goes so far sometimes as to cause *involuntary* emissions, or at least on slight incentives, which of course lessens both the pleasure and the product of this function. Thus excessive indulgence cuts off the very pleasure sought by diseasing its apparatus.

#### IT DETERIORATES THE SEXUAL CHARACTERISTICS.

We have seen that over indulgence, in all its forms, plants disease in the sexual apparatus. Now if this disease *ended* here it would do great injury; but it goes farther, and does more. *It deteriorates the sexual characteristics*. That is, it impairs the manliness of the male and the feminineness of the female. Now the entire manhood of the man, all his nobleness, dignified aspirations, efficiency, and manliness, are created by, and depend upon, his mental and physical sexuality. So do all the beauty, grace, refinement, purity, elegance, fascination, and charms of woman, as explained in section four of "Love and Parentage." This is certain. Now in and by this injury of the sexual apparatus, over-indulgence proportionally impairs the manhood and power of the former, and the beauty, sweetness, and charms of the latter. This result is *necessary and universal*.

Destroy the sexual apparatus of animals by emasculation, and witness the effects. Compare the stallion with the gelding. What becomes of the proud and lofty prance, the noble bearing, the perfect form, the physical stamina, the free, bold, neighing, resolute, powerful horse? His neighing subdued, except as partially renewed by the arrival of the sexual season. His arched and thickening neck unstrung. His lofty prance exchanged for the steady jog. His mien humbled. His free spirit chained. His physical power greatly subdued. No longer the horse proper, but lowered, mutilated, and the mere shadow of that noble animal. Compare the bull with the ox. You find results every way similar; as also by comparing the ram with the wether. What but the perfection of his sexual nature gives the bull his force and power of endurance over the ox, even enabling him to endure what would kill two oxen? Why can the latter be easily tamed and subdued, but the former never? Why a small bull whip a large ox? Why can the stallion perform twice the labour of the gelding? The perfection of the sexual apparatus alone makes the difference. This principle applies throughout the animal kingdom, and is equally true of man. I once knew an eunuch, rendered so by his own hands. His voice effeminate and hackled. His tones pining, and whining, and complaining. The bass, strong voice of manhood merged into the most diminutive manner of speaking imaginable. His look sorrowful and hapless. His motions slow and feeble. His very existence a burden. And all because his *sensuality*, mental as well as physical, was gone. No more the man! A mere *thing*.

Now, by a law of nature, whatever impairs the physical sexuality thereby impairs the *mental* sexuality; and as over-indulgence does this, therefore whoever gives way

to this passion proportionally *impairs his manhood*, and becomes the ox or gelding ; or else effaces the charms of the womanhood. The man lays down his nobleness, dignity, power, and manhood, and is no longer bold, resolute, determined, aspiring, dignified ; but becomes depreciated, irresolute, undetermined, tamed, and conscious of his degradation—no longer comprehensive in planning, efficient in executing, correct in judgment, full of thought, strong in intellect, courteous in manner, noble in mien, and gallant to women ; he becomes disheartened, uncertain in his plans and inefficient in their execution, and a drone to himself and society. So, too, the female, diseased here, loses proportionally the amiableness and gracefulness of her sex, her sweetness of voice, disposition, and manner, her native enthusiasm, her beauty of face and form, her gracefulness and elegance of carriage, her looks of life and interest in man, and to him, and becomes merged into a mongrel, neither male nor female, but marred by the defects of both, without possessing the virtues of either. No more the woman till her female *organs* are restored, and her accompanying *mental* sexuality thereby re-established. This principle furnishes a very excellent hint to those who would retain or restore their beauty, to preserve or restore this apparatus—a means of promoting beauty much more effectual than all the padding, bustles, and fashionable attire in the world.

## IT DISEASES THE WHOLE SYSTEM.

If the diseases consequent on this inflammation were confined to that apparatus in which it originates it would do great damage, as just seen, but it does incalculably more now, because it plants disease in the very bowels of the frame. We have seen in section three of "Love and Parentage" how perfectly reciprocal are the relations existing between this apparatus and the heart, lungs, liver, stomach, kidneys, secretions, excretions, and each and all the vital organs and functions, in order thereby to propagate them all. Hence, whatever diseases it will disease them also. Disease in no other organ is equally prolific of disease in all the others. This is the physical citadel of health or of suffering, by capturing which you take all the others ; if they are captured life itself surrenders to death. Common parlance designates some clouds as "weather-breeders." This is a *disease*-breeder—a true Pandora's box, the opening of which engenders all sorts and degrees of pains and sufferings that "flesh is heir to." Dr. Woodward, than whose opinion none is more entitled to consideration, remarks concerning it as follows :—

"Consumptions, spinal distortions, weak and painful eyes, weak stomachs, nervous headaches, and a host of other diseases, mark its influences upon the one ; loss of memory and the power of application, insanity, and idiotism, show its devastating effects upon the other.

"In the spring of 1837 I was consulted by the father of a young woman who had for four years been in the worst possible condition of health. She had consulted many eminent physicians, who had prescribed remedies and regimen for her without benefit. On first seeing the patient I was impressed that the cause of her illness had not been understood, which had rendered all remedies unavailing. Upon inquiring of the patient I found that she had been the victim of self-pollution. I cautioned her to abandon the practice, prescribed some remedies, and saw her no more.

"More than a year from the time of seeing her I heard directly from her parent, who sent me word that she had entirely recovered her health and energy of mind, and that my prescriptions had entirely cured her."

## IT IMPAIRS DIGESTION AND CIRCULATION.

It thus robs the system of its required nourishment. Vertigo and heaviness about the stomach, &c., necessarily follow this excess, because it robs the digestive apparatus of the energy required to carry forward this function. It produces a gnawing, fainting, distressed, sunken, "gone" sensation along the whole alimentary canal, is a frightful cause of dyspepsia, heartburn, &c., and thus robs the system of its very life and soul.

An isolated example. Many years ago an intelligent, well-educated man was brought to the Insane asylum, in Hertford, the victim of self-abuse, and rendered nearly idiotic thereby, as well as raving perpetually for food, which he would consume

voraciously most of the time if allowed. His keepers, however, refused food unless he would stop the practice. The struggle was terrible. His rampant appetite, finally compelled him to desist, and he recovered.

Nor does the heart escape. Indeed, it suffers among the foremost, as those will recognise experimentally who are at all subject to weakness, or palpitation, or enlargement, or uneasiness of this organ. Nor can those thus affected indulge much without essentially increasing their malady. The kidneys in particular are increased thereby, and hence it causes the gravel.

#### IT DERANGES THE BRAIN AND NERVOUS SYSTEM.

But its ravages on the *brain and nervous system* embody its most terrible consequences. To behold one physical organ after another fall a victim to this devastating passion, as house after house is consumed by the devastating flames, is indeed terrible. To lose limb after limb of the body, or large portions of the heart, or lungs, or sight, or hearing, &c., is irreparable, and inexpressible by words; but to lose one after another of the *mental faculties* is inexpressibly greater, because these constitute the man. As Dr. Watts replied impromptu to Mrs. Rowe, when she rallied him for his persona diminutiveness—

“ Could I in stature reach the pole,  
Or grasp creation in my span,  
I’d still be measured by my SOUL:  
The MIND’s the standard of the man.”

Whatever enfeebles or deranges the *brain and nerves* thereby impairs the very personality and entity of the man himself. Now we have already seen, in section three of “Love and Parentage,” that this indulgence is most exciting, exhausting, and irritating to the brain and nervous system; that excess produces inflammation and disease; and also that nervous and cerebral disease both produces depravity and renders its victims most miserable, where there is no other cause or occasion. Behold in this “wheel within a wheel”—in the fact that this indulgence inflames the whole body, and especially the brain and nervous system—the *reason why* this excess causes more insanity than anything else except intemperance, which it generally accompanies. Of the 128 males in the McLean Lunatic Asylum in Charlestown, Mass., in 1838, twenty-four were brought there by a single form of this vice. The report of the Worcester Insane Hospital, for 1836, rates intemperance as the most prolific cause of insanity, and this passion as the second, of which it then had twenty-six victims. In 1838, of its 199 male patients, forty-two, or almost one-fourth, were the victims of solitary indulgence. A superintendent of a French Lunatic Asylum says: “It is, more frequently than is imagined, the cause of insanity, particularly among the rich.” “No cause,” says Dr. Woodward, “is more influential in producing insanity. The records of the institutions give an appalling catalogue of cases attributed to it.”

But when it does not go so far as to induce complete idiocy or insanity it so far vitiates the nervous system as to leave its subjects completely miserable—self-abuse particularly so. Section three of “Love and Parentage” fully demonstrates the physiological law that disordered nerves produce mental misery; and as this passion deranges the nervous system we see *why* its subjects are nervous, fidgety, easily agitated, fearful, afflicted with terrible dreams, melancholic, depressed in spirits, and most wretched, as well as partly beside themselves. In describing its effects Dr. Adam Clarke writes thus:—

“The sin of *self-pollution* is one of the most destructive evils ever practised by fallen man. In many respects it is several degrees worse than common whoredom, and has in its train more awful consequences. It excites the powers of nature to *undue action*, and produces *violent secretions*, which necessarily and speedily *exhaust the vital principle and energy*; hence the muscles become flaccid and feeble, the tone and natural action of the nerves relaxed and impeded, the understanding confused, the memory oblivious, the judgment perverted, the will indeterminate and wholly without energy to resist; the eyes appear languishing and without expression, and the countenance vacant; *appetite ceases*, for the stomach is incapable of performing its proper office; *nutrition fails*; tremors, fears, and terrors are generated; and thus

the wretched victim drags out a miserable existence, till, *superannuated*, even before he has time to arrive at *man's estate*, with a mind often debilitated even to a state of idiotism, his worthless body tumbles into the grave, and his guilty soul (guilty of self-murder) is hurried into the awful presence of its Judge!

"Reader, this is no caricature, nor are the colourings overcharged in this shocking picture. Worse woes than my pen can relate I have witnessed in those addicted to this fascinating, unnatural, and most destructive of crimes. If thou hast entered into the snare, flee from the destruction both of body and mind that awaits thee. God alone can save thee. Advice, warnings, threatenings, increased debility of body mental decay, checks of conscience, expostulation of judgment, and medical assistance, will all be lost on thee. God, and God *alone*, can save thee from an evil which has in its issue the destruction of thy body and the final perdition of thy soul."

"Facts, &c., to Young Men," narrate the history of a young man of high talents and standing, promoted to an important post of honour, which he once filled satisfactorily to his constituents, and who had amassed considerable wealth, and was engaged to be married, as follows:—

"But his health began to fail. His constant complaint was, 'my nerves are weak'—'my hands tremble'—'my wrists ache'—'my knees are weak'—'I have bad dreams,' &c. He was advised to take outdoor exercise, ride on horseback, and take strengthening remedies, with a nourishing diet. But all this did no good. The symptoms increased. He soon became dyspeptic and hypochondriac; and then followed not only the aches and pains that were consequent upon such a state of the body but all those ten thousand imaginary physical and mental diseases that flesh is heir to. Every remedy was used, but to no purpose. He gave up his business, broke off his engagement with his lady, sought every opportunity to hide himself from the gaze of his friends and the world, and seemed to be determined to die.

"Thus he remained, a most wretched devotee to the suicidal practice of self-pollution. Professional advice, and that of his friends who knew the cause of his sickness, had no effect upon him. Sometimes, indeed, he would desist for a few days, but it seemed to be only to gather new strength, that he might pursue his ruinous career with greater energy. About two years ago he was attacked with palsy of the whole of one side, and which continues to this day. Nocturnal emissions, priapisms, gleet, or a watery discharge from this organ, and aches and pains, with frightful visions, horrid dreams, and idiotic manners, all now present themselves as the sad result of this disgusting, criminal, and soul-destroying habit. He is now a mere pest to his friends, and though but comparatively few persons are aware of the cause of his wretchedness, it is nevertheless true, and can be attributed to no other cause than the indulgence in solitary vice.

"Other cases might be referred to, if I had time, of a less revolting nature; for when the indulgence is only occasional of course the effects are not so alarming. But even *then* the effects are bad, for there cannot be a single indulgence in this way without producing injury to a certain extent."

Of another it narrates thus:—

"A few years ago I had under my care and instruction a most promising youth. His talents were of the highest order, and he bade fair to take a prominent stand among the first scholars of our country. He entered college, and was considered one of the first scholars of his class. It was soon perceived that his constitution was breaking down. Medicine did him but little good. Soon after he graduated he became melancholy, and finally was deranged, and his friends were under the necessity of conveying him to a hospital. It was not until this event that the cause of his complaint was ascertained. It was evident that he had been in the constant habit of criminally indulging himself in secret. In a few months he partially recovered, and visited his friends. He has, however, been sent to the hospital again. He is a most melancholy object, for in his lucid moments he is demented, a mere wreck of that superior genius which he once was. When I meet him in the street I find that idiotic, lascivious smile which is common in those cases where the individual has been in the constant habit of beastly indulgence.

"A young man was under my care from one of the Southern cities. He was an object of pity. He had become so accustomed to this vicious indulgence that he had been known even at the dinner table to practise it. He was extremely irritable, and would often be taken in a fit (spasms), which would continue for hours. His physician did not understand his case nor was I sensible, at the time, that his bad habits had

produced his partial insanity. He would often disclose some of his practices to his associates when he was insane, which he would much regret when he had recovered his reason. I have understood that since his return to his friends he has but partially recovered. He is demented, and is unfit for the common avocations of life.

"Another young man, who was under my care not long since, is obliged to leave his studies, and is just going into a decline; and self-pollution is the cause. I have conversed with him, and he is sensible of his error, but I fear too late."

A letter to Mrs. Gove, narrating its writer's experience, describes the effect on the mind as follows:—

"At about twelve years of age my health began to fail. I became dyspeptic and nervous. I often awoke in the morning bathed in tears; and the most indescribable and horrible sinking of spirits was my portion during the forenoon. If I committed any little mistake or fault the recollection of it would haunt me for days and make me superlatively wretched. I became pale as death, weak, feeble, and emaciated. I had severe palpitation of the heart, pain in the side, and many symptoms of consumption. I had also, much of the time, distressing pain in the head. I had much dizziness, and my sight would often become entirely obscured, especially when I stooped and rose quickly."

"It renders them," says an English author, "stupid, dull, and melancholy, and destroys all their vivacity, cheerfulness, and health. It brings on consumption, weakness, barrenness, and all that dreadful train of nervous complaints which make them timid, whimsical, and ridiculous."

Another patient writes thus:—

"My enthusiasm is sensibly diminished; my perceptions are very dull; the fire of imagination much less vivid; every passing event appears to me like a dream; I have less power of conception, and less presence of mind. In a word I feel as if I were wasting away, although my sleep, appetite, and countenance are good."

"The empire which this odious practice gains over the senses," says Tissot, "is beyond expression. No sooner does this uncleanness get possession of the heart than it pursues its votaries everywhere, and governs them at all times, and in all places. Upon the most serious occasions, and in the solemn acts of religion, they find themselves transported with lustful conceptions and desires, which take up all their thoughts."

Dr. Woodward gives the following from a letter written by a patient:—

"Having endured so long under this blighting, withering curse, my constitution, naturally very strong, is broken down, and my mind, as well as body, completely enervated. I am haunted day and night with lascivious thoughts and dreams suspicious of my friends and disgusted with myself. My memory has lost its power. Unable to fix my attention, my mind is filled with terrible forebodings—fear of insanity; and at times it has cost me a continual effort to retain my reason. It is with difficulty that I walk, or stand, or even sit erect. An inclination to lie down and sleep, which desire I am sensible I have indulged too much—my sleep never refreshes me—I rise in the morning weak and weary, to drag out another miserable day. Oh, how often have I wished for death, or rather oblivion, or anything to terminate my woes! I have of late been much annoyed with constant little twitchings or spasms in various parts of my body, and frequently my face. \* \* \* *Would to God I had known what I now know when first I was tempted to this health, life, and soul-destroying vice!* I feel that I cannot hold out much longer."

Behold in the following autobiography of a patient the mental anguish and derangement this practice engenders. After saying that he commenced the practice at about fourteen years of age, and had kept it up at intervals for many years, he writes:—

"During the whole of this time I have suffered the most intense and unmitigated misery. Although blessed by nature with an excellent constitution, and with a kindly, cheerful disposition, I have become dyspeptic, gloomy, and unsociable. I am wretchedly timid and irresolute, my mind very weak, and filled with imaginary terrors. In fine, I have suffered so much in body and mind, and seeing no prospect of being restored to health and usefulness, that I am sunk in despair, and am daily contemplating suicide. It is the anguish my death would cause my mother and sister, whom I devotedly love, and for whom I would wish to live, and whom I would wish to maintain, that mainly prevents."

But why detail more? These are the *constitutional* effects of this sin. Behold the MIND a wreck—the SOUL uddoue!

## IT ENGENDERS DEPRAVITY IN ALL ITS FORMS.

But all this, most terrible as it is, is not the worst. Amativeness being situated in the midst of the *animal organs*, and this indulgence tending necessarily to inflame it, its inflammation of course inflames, diseases, and perverts them also. Section three of "Love" shows that the morbid, painful, diseased action of the propensities, *constitute depravity*; and this section shows that this excess diseases both the cerebellum and the body, with both of which the animal propensities are so intimately related, that whatever deranges the former thereby perverts the latter, and thus causes depravity. Or thus: Excessive indulgence inflames the sexual organs, the whole body, and Amativeness, located in the cerebellum, in particular, and this inflames and depraves the whole animal group of organs, and thereby *creates sin in all its forms*. Corresponding with and explained by this is the FACT that lust, the world over, is the concomitant and parent of all other sins. In what portions of our cities, towns, and villages is perpetrated the most wickedness? Wherever are congregated the votaries of Venus. Where will grogeries be found the most abundant, the most frequented? In the streets and lanes of wantonness. Where are you most liable to be robbed? There also. And by whom? Its inhabitants. What but prostitution could make woman, aye, amiable woman, swear, and lie, and cheat, and drink, and carouse, and rob, and even *murder*? In what part of Boston was that recent tragical murder of Mrs. Bickford committed? In Old Town, the "Five Points" of that godly city. *By whom?* A libertine. *On whom?* A lewd woman. In short, the dens of prostitution are everywhere the deus of crime in all its forms, in all its aggravations. And what is true of these masses is true of those individuals which compose them. Who are our defaulters, our swindlers, our gamblers, &c.? *Frequenters of lewd houses always*. No equal incentive to dishonesty and criminality exists. Fortunes are yearly stolen by clerks, agents, &c., and covered by false entries, simply to obtain the means of gratifying this passion. How much, the Judgment alone can reveal. Though intemperance will soon run a man down, and wring his last penny from him to feed those fatal fires which are consuming soul and body, yet it is a pigmy compared with this giant robber. It will drain the last penny, and then pursue its victim night and day till he becomes literally *desperate*, and is almost compelled to lie, steal, forge, rob, ANY AND EVERY thing to procure the wages of this sin. Do as great a business as he may, he rarely becomes rich. But see how many fortunes it has squandered! No one who "goes after strange women" can be good, honest, and true; but he who does will commit almost any other form of sin. This passion will sow the seeds of depravity in the purest of souls, and convert those most irreproachable into demons. This is *staple truth*, apply it where you will.

Moralists, behold in this relation of perverted sexuality to universal depravity your first work of reform. As long as this passion is thus uncontrolled and perverted so long will all other forms of depravity be rife, and all forms of virtue be trampled in the dust! Ministers may preach till Doomsday against any and all other vices, and without effect, till they preach *moral purity* in all its forms. It is a matter of perfect surprise that so few ministers preach against this sin in any of its forms, especially against self-abuse. Most of them, though posted on the moral watch-towers of society, are "dumb dogs" that "will not bark," touching this, the very keystone of the arch of depravity. Is it not high time that some moral champion should stand forth to proclaim this vital truth? Lawyers will not do it, nor doctors (except a few noble Woodwards), nor ministers. Shall then this monster be left undisturbed to feed on the physical and mental carcasses of his prey? God forbid! If the ministerial profession will so far prove recreant to their high moral trust, and the other professions follow their example of silence, help *must* come from some other quarter; for this age of reform must *begin reformation here*. And the author is free to confess that an overwhelming desire to prevent iniquity in its other forms, as well as this, and by sanctifying and properly directing this propensity, to promote general moral excellence, and obviate general corruption, mainly dictated these pages. He wishes, by "Love and Parentage," to aid in rendering after generations *better by nature*—more intellectual, more pure and holy in soul, and elevated in aspiration, and by this work to stay licentiousness, public and private, by showing the superiority of

moral purity over sinful propensity, in order thereby to promote moral purity and all other virtues on the one hand, and on the other to prevent this vice, and thereby all other forms of human depravity and woe.

IT PERPETUATES AND RE-AUGMENTS ITSELF.

We have seen that excess begets inflammation, and that inflammation creates desire. Hence every new indulgence only re-augments the cravings of this propensity. As an inflammation of the stomach causes a morbid hankering after food, the gratification of which still farther increases both the disease and the craving, so excessive sexual indulgence fevers these organs, so that they call still more loudly for gratification, every new indulgence of which re-augments the inflammation, and consequently the power of passion, till, like the letting out of waters, it rises and rushes till life itself is emptied out thereat, and both body and mind swept on to remediless destruction and woe! Indulgence is fuel to these already consuming fires of perdition. This propensity being to the sexual apparatus precisely what appetite is to the stomach, since as eating, so far from satisfying the ravenous cravings of the dyspeptic, only *increases* them, by re-inflaming the stomach, so sensual indulgence first inflames the sexual apparatus, and this re-increases both disease and desire, till the entire system is drained of energy, and its victim *dies*.

This passion, inflamed by indulgence, becomes the horseleech of life and happiness, crying perpetually, louder and louder, "Give, give, GIVE, GIVE," but never enough—or the gluttonous tapeworm—the more it is fed, the more insatiate its ravages, till, after having devoured all the other powers and faculties of its miserable victim, it ends only in a death of all deaths the most horrible. Like the falling, perhaps, of an icicle on Mont Blanc, which gathers size and force as it descends, and now rolls heavily and rapidly down the steep sides of yonder towering cliff, anon bounds from peak to peak, sweeping their snowy sides, and tearing up huge trees and rocks in its resistless course, till, leaping yonder yawning precipice, it plunges into the deep abyss, dashing to atoms both itself and all its prey, scattering ruin and death in all its course.

Nor does this principle govern one form of sensual indulgence merely, but *all* its forms. It is *inherent in all* forms, and appertains alike to matrimonial, promiscuous, and personal indulgence in all their stages. Animals, one and all, before their first indulgence, experience only a moderate power of this impulse; but afterwards become uncontrollable. The less it is exercised the more easily can it be held in check.

Beware, then, oh youth! how you unchain this roaring lion till walled in by wedlock; else propensity will haunt and goad you night and day, clamorous for indulgence, yet never satisfied till your ruin is complete. Indulge but once, and you will have no peace of your life, but will be dashed hither and thither with those waves of passion into which "one false step" plunges you. If you have no regard for the sin committed, yet regard your own subsequent peace and happiness for life.

Mark: we do not put this matter on its *moral turpitude*, but on its necessarily consequent *evils and sufferings*; first, because the latter involves the former, and is the *cause or rationale* of all sin—the *reason why* sin is sinful, as well as the measure of the sinfulness of sin—and because we thus appeal to the two strongest, and even the governing motives of human nature; namely, first, to its love of happiness, and secondly, to its dread of suffering. Not that it is not most sinful. It is morally wrong in exact proportion to its *miseries*, which we have just seen to be so frightful.

## CHAPTER II.

### THE EFFECTS OF PROMISCUOUS INDULGENCE, MATRIMONIAL EXCESS, AND SELF-ABUSE, COMPARED.

Thus far, our inquiries have related to the constitutional effects of excessive sexual indulgence in its collective capacity, or indiscriminately in all its forms. But this hydra monster assumes many forms, three of which deserve consideration.



## I.—LICENTIOUSNESS.

That promiscuous indulgence is most sinful, is evident from that terrible penalty affixed to its perpetration. To be eaten up by piecemeal, with sores and ulcers, nauseating and loathsome beyond description—to lose bone, and muscle, and nerve by inches, and literally *be eat up alive*, besides being simultaneously tortured with agony the most excruciating mortals can endure, affixes nature's seal of proportional moral turpitude upon its cause. Consequences thus direful show that their cause must be a sin proportionately aggravated. Quacks may essay to cure it, but its virulent poison still lurks in the veins for life. Calomel may give immediate relief, but the grave alone can entirely eradicate it. Sin ye who will, but ye who sin must suffer. God is just, and visits his violated law with meet retribution.

Nor does this curse of curses cease with its author, but is justly entailed upon his children, and his children's children, "unto the third and fourth generations." See yonder maimed and hobbling object of pity, his limbs distorted, his joints dislocated and racked with pain, his life tormented with running sores, his mind feeble, and passions ungovernable! All this is but the wages of his father's licentiousness. A physician once remarked to the author, that a more prolific cause of scrofula, consumptions, and kindred affections did not probably exist, than this sin of parents; adding, that it often broke out two or three generations down, and could rarely be eradicated from descendants. Oh! how great the crime of thus cursing posterity, instead of blessing it with all the endowments conferred by virtuous love!

Nor do many know how prevalent this disease is in its various forms. Its victims keep their own secret as long as possible, and doctor themselves, except when their case becomes desperate; and then confide it only to their medical adviser, whose very profession obliges him to keep the secret. Oh! how many thousands of our young men have ruined their constitutions, and become invalids for life, solely by means of this disease, or attempts to cure it. Indeed, its prevalence at the Sandwich Islands actually threatens the extinction of that nation; which, at its present state of mortality, it is computed to effect in about sixty years!

The fact that SEVERAL THOUSAND COPIES of a little work of less than twenty pages, on the cure of venereal diseases, are sold *every month at one dollar per copy*, and that other works of this class sell in proportion, shows conclusively that there are *several thousand new victims* every month! No patient wants more than a single work, yet TWENTY THOUSAND PER MONTH\* does not equal the sale of these works, and of course falls far short of the number of victims, for none but venereal patients will pay thus dear for so small a book, of no manner of interest to those not thus afflicted. All this, besides all those who indulge with other than harlots by profession! almost incredible, but nevertheless true!

We thus see that *nature*, as well as the Bible, condemns licentiousness; so that disbelievers in the latter are yet bound by nature's inflexible laws to continence, except in wedlock. But a point thus self-evident, need not be urged. Beware then, oh passionate youth, how you commit this sin! even though you neither "fear God nor regard man," yet at least regard your own happiness, and induce not so terrible a curse!

## MATRIMONIAL EXCESS.

But this is not the only form of sin assumed by this propensity. It invades married life, and sows the seeds of misery within the hallowed pale of wedlock. Reference is not now had to those who, though married, seek foreign indulgence; but to those who know their own legal companion only. This will surprise many who are married, because they think themselves entitled to any desired amount of indulgence. Far otherwise. Nature cares nothing, knows nothing about human enactments. Excessive indulgence between husband and wife produces all the consequences shown in the last chapter to result from excessive Amativeness. A miserable victim of connubial excess is hardly less miserable than the victim of licentiousness. A newly married husband once called upon a medical friend of the Author to prescribe for what he supposed to be venereal disease, contracted from his wife. Soon after, *she* called on the same errand; both accusing each other of having given the disease. The doctor told both that their hymeneal excess had inflamed and diseased both, and prescribed moderation.

\* A single house in New York sells some 8000 copies per month!

But what stamps effectually the seal of nature's reprobation on excessive matrimonial indulgence, is its *destruction of the health of woman*. Is it not a most prolific cause of those distressing female complaints which *bury half of our married women prematurely*, and seriously impair most of the remainder? Testify, Drs. Sherwood, Banning, Hollick, Benjamin, and others, in this line of practice; are not these complaints alarmingly prevalent, and occasioned mainly by excessive indulgence? Do not thousands of our women die annually in consequence? Speak out, ye weakly, nervous wives, now dying by wretched inches of these diseases, and say whether your sufferings were not caused mainly, and have not been aggravated to their present painfulness, by the frequency, the fury, the almost *goatishness*, of your husband's demands? I say fury, because though frequency is bad, yet harshness is worse; nor do husbands always consider how exceedingly tender, and how liable to consequent inflammation and disease, this apparatus is. Many a husband has buried more wives than one, *killed outright*, ignorantly, yet effectually, by the brutality of this passion. Reader, if thou knowest none such, thou knowest not the *cause* of all the deaths that transpire around thee! And yet, the pulpit, the press, the lecture room, are silent in view of this vast, this wicked waste of life—of even the infinitely valuable life of woman!

And tens of thousands of those whom it does not kill it nevertheless effectually despoils, by impairing both their sexual organs and their health, as well as minds. More—it cuts off the very pleasure sought. As over-eating diminishes appetite, and thus curtails the gustatory pleasure sought, so excess here engenders those diseases which cut off this very pleasure. By causing the *prolapsus uteri*, albus, &c., it renders this intercourse utterly repugnant mentally, and painful physically; thus inducing the penalty in the direct line of the transgression.

#### IT PREVENTS AND IMPAIRS OFFSPRING.

Whatever enfeebles or diseases the sexual apparatus of course impairs its products, or else prevents offspring altogether. That over-indulgence causes barrenness has even been canonised into a proverb, which all will recognise in this connexion. An amorous husband who partakes thrice as often as the sun rises never had but two children by his wife, both of which received existence on his return of only an hour from an absence of some weeks, and his immediate recall and absence for weeks longer. Another pair, who partake as often, have no children, and deserve none. Excessive indulgence is one *great* cause of sterility, partly by diseasing these organs, and thus impairing their functions, and partly by disturbing the seeds of life before fairly rooted.

Nor this merely. It also impairs many which it does not destroy. By obviating the enhancement of pleasure leut by novelty it tames down this *function*, and of course its product; while rarity facilitates their endowment by promoting parental ecstasy in harmony with a law already demonstrated. As we cannot have children without having mothers, whatever impairs the latter deteriorates the former.

#### IT DETERIORATES WOMAN IN THE ESTIMATION OF MAN.

Besides, lust carries with itself the feeling of degradation. He who indulges frequently, even with his lawful wife, *cannot but* associate her in his own mind with this debased feeling to which she administers. He first debases her by his brutality, and then despises her for being debased. It is a law of mind that this excess should produce contempt for its partner. Reader, did you ever hear the libertine speak well of woman as a sex? This fact is apparent; and you may *always* measure the sensuality of a man by his disrespect for the sex, and his moral purity by his estimation of a woman. This is a perfect thermometer of moral purity. Its reasons are obvious. First, rogues suspect all mankind of being rogues; liars, of being deceptive; and the sensual of sensuality. Secondly, he has been mainly conversant with woman as a *sexual thing*, and not as a pure, refined, and affectionate being. Her sexuality mainly is what he has noticed, and this he detests in himself, and therefore in her.

Woman thus abused also soon comes to feel herself humbled, broken down, and sunk in the scale of self-respect by being put to so low a use. And let the sensual husband remember that knowing ones can read his treatment of her in this respect by

these and kindred signs—that is, in her *downcast, self-degraded looks and mien*. But over this saddening picture of woe let us draw the curtain of silence while we shed tears of pity over her sufferings. Woman fallen! Her loveliness engulfed in the fiery sea of lust! Her angelic purity and perfection converted into corruption! The angel become the *animal*—a mere sexual *thing*! And all by violating a plain law of nature. Meet punishment for so sensual a sin.

Much has of late been said as regards the elevation of woman on the one hand, and her natural inferiority on the other. Without disturbing this mooted question, further than to say that she is equally perfect with man in her sphere, which is equally elevated with his; that she is as perfect as the God of nature could render her, allow special attention to be called to the one specific cause of her disrepute. It is *man's sensuality*. How does the Turk regard woman? As a mere *thing*, destitute of a soul, and of all intrinsic merit. Now look at the one animal end to which he puts her, and put the two together. Wherefore the harem? Simply to feed his sensuality. And this very sensuality breeds this contempt for its object. The same holds true of all mankind, and governs individuals as well as masses. The libertine always despises his “bird” after he has sated his passion, and *because* of such indulgence. *Sensual indulgence begets disgust for its object*. This is a *law of mind*, and is as true in wedlock as out of it. Hence, other things being equal, in proportion as a man indulges sensually with woman as a sex, does he despise the sex, or as an individual does he underrate her individuality. Nor, say what you will, can woman ever be raised to her true dignity, or be properly appreciated, till licentiousness is superseded by true love. Moral purity will elevate woman in exact proportion to its prevalence, while licentiousness, in and of itself, and by virtue of its own inherent nature, *sinks* her in the scale of valuation in exact proportion as it rises. This is cardinal truth, and shows those who labour for the elevation of woman where to begin, and what obstacle alone prevents success.

We might mention many more evils that grow out of matrimonial prostitution, but are not these amply sufficient to stamp it as most infamous in its nature, because most direful in its consequences? Indeed, I regard its magnitude as scarcely less than that of promiscuous indulgence, because its evils are substantially the same, and scarcely less aggravated, and partly because so much more prevalent. It offers much greater facilities and temptations. It costs nothing in and of itself, though many a husband has paid out more in the form of doctors' and nurses' bills, &c., than his licentious neighbour has for promiscuous indulgence. It is almost universal in married life, and is burying its victims ten to one faster than its twin sister—promiscuous intercourse. Mere sensual indulgence *as such*, in wedlock or out of it, in and of itself, sensualises the mind, debases the feelings, and engenders depravity in all its other forms. It is *fire* to the nervous system, which, diseased, irritates all the propensities, and depraves the entire being. Mark, ye husbands whose demands are frequent, the increased irritability, and fretfulness, and crossness of your wives the next day, and learn from these principles both the cause and cure.

We must not omit to mention the double injury occasioned by indulging while she is fulfilling her maternal relations. At these periods she almost always loathes it, proof enough that it is then wrong. Besides, it withdraws that vital energy required by her precious charge. It also sensualises that charge; it partaking by sympathy with its mother's feelings. Nor have I a doubt but that the seeds of much of the sensuality of mankind are sown by paternal indulgence *before birth*. Then, at least, should the mother's mind be kept as pure and elevated as possible, and her physical stamina *promoted*, not drained to feed a sensual passion.

Husbands, be entreated to mark well this entire chapter. In this particular you are mainly in fault. Your wives could not impose upon you in this matter if they would, and rarely would if they could. But do you not often insist on compliance, and almost *compel* it when very disagreeable to them? You thus inflame their female structure without giving them *any* pleasure in return, but only *repugnance*—all pain. Oh! be not thus cruel! Wait at least for reciprocity, and then guard carefully against all pain and injury. Would that these truths might reach every married pair in Christendom.

But we have not reached all the evil forms, if the worst form, of “excessive and perverted Amativeness.” However prevalent both licentiousness proper and legalised licentiousness, *private* fornication I regard as at least equal to either, and much more prevalent than the first named. Our youth by wretched thousands, aye *millions*, too

conscientious to violate the *literal* law of chastity, seek in solitude that same gratification which constitutes sensuality itself. The two differ in nothing except in the substitution of an imaginary partner for a real one—in the complete absence of that love which alone can sanctify this indulgence, and in its being *all* sensuality, as well as, if possible, a still more unnatural and effectual violation of nature's laws. Do not both consist equally, in warp and woof, of sensuality? Is not the same propensity indulged in both? Are not the same feelings exercised, and in the same way, saving that its partner, so indispensable to both, is imaginary here, but real there? Is not the *kind* of gratification sought and afforded alike in both? Are not both precisely alike in debasing the character? The same feelings, the same organs, the same action in these organs, the same evacuations, except that private prostitution is necessarily more completely gross and lustful, as well as more injurious to the organs exercised; besides the far greater number of its subjects, and the far greater frequency of its indulgence. Is licentiousness debasing and polluting to the soul, and is not *self*-pollution even more so? Does it not create even a greater degree of shame, and self-abhorrence, and vulgarity? Does the former disorder the sexual apparatus, and does not the latter equally, probably more? Does the former often produce impotency, and does not the latter much more frequently? Does the former derange the nervous system, and does not the latter equally, and fill the entire system full to bursting with a wild, hurried, fevered excitement, which rouses every animal passion, unstrings every nerve, and produces complete frustration and confusion? Does the former drain the system of animal energy, and waste the very essence of its vitality; and does not the latter equally rob every organ of the body, every faculty of the mind, of that vital energy by which alone it lives and acts? In short, it is hardly possible to name an evil which appertains to the former which does not also characterise the latter, whilst the latter by being so much the more accessible, subjecting its possessor to no expense (but that of life), and no shame, because perpetrated in secret, is therefore the more widespread, frequent, and ruinous. Nor is it considered a sin (shame on those pretended moral watchmen who do not denounce it), and therefore not opposed by the terrors of conscience. Nor does that almost insuperable barrier of native modesty created in the soul of every well-constituted youth against licentiousness avail much here, because its natural stimulant, the presence of the other sex, is not present to bring it into action. It is also practised at a much earlier age, and while the system is yet immature, and all the strength required for growth, thus sapping the constitution in its infancy, and hence the more completely irreparable and fatal. Nor is it scarcely less fascinating than sensuality proper, though incomparably less so than that banquet of love described in "Love and Parentage." Both are made up of sensuality, and neither call forth any of the higher elements of our nature, while love calls them all into intense action in connection with this indulgence, which it sanctifies, and the pleasures of which it indescribably enhances.

If asked my serious opinion as to the comparative evils of these two forms of "excessive or perverted Amativeness," considered collectively, as working the greatest ruin in our age and nation, and causing the greatest amount of suffering and woe, I should answer unhesitatingly, as the result of my extensive observation and mature conviction, PRIVATE FORNICATION—TEN TO ONE! And this is substantially the opinion of all who have examined this subject. If asked which I should prefer a child of mine to practice (Oh, merciful God! deliver me from so dreadful a dilemma), my unequivocal answer would be, "Rather let my dear child DIE, be it even by revolting *suicide*. Any other cup of bitterness sooner." Nothing, oh fond parent, can render your beloved offspring more completely wretched.

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## CHAPTER III.

### SIGNS OF SENSUALITY IN ITS VARIOUS FORMS.

"Satan never keeps secrets." "Murder will out." And so will sensuality. We can tell the rake, and designate the wanton; and say truly, who has known the other sex, and how; as well as who seeks solitary gratification, and who is pure. The SIGNS of all these things *come to the surface*, and cannot be disguised.

To transfer all these signs to paper is impossible, nor can a fraction of them be fully given without too much digressiou. Many of them the "natural language" of the faculties discloses, which a Phrenologist alone can fully understand.\* If by casting her eyes over a congregation the lewd woman can easily select her patrons, why cannot we also discern them? We can by the following, among other indices :—

Carrying the hands frequently to those organs by way of changing their position, or sitting with the former partly enclosing the latter; because the latter, being inflamed by over-action, are uneasy, and the former are carried to, and move them about, to give relief. Such, if married, may know only their own companion, but it will be both lustful and excessive. If unmarried, they either abuse themselves or seek foreign indulgence, which may be distinguished by a slight difference in a certain position often assumed by each, which the natural language of Amativeness perfectly explains.

The amorous man has also a lascivious expression of the eyes and lips, and always manifests sexual curiosity when he observes females, and often turns to look at them. Or when anything is said about the other sex, he acts or laughs as if something very curious or wanton or vulgar had been said; and relishes it, because he always looks at everything through glasses of lust. Or else he unequivocally condemns and denounces everything appertaining to this subject, especially by way of obviating this evil, so foul and filthy, because to him it is so. A rake can easily be marked by these and kindred signs.

Reader, is it expedient to give the indices of wantonness in woman? It is not. Yet they are equally, if not still more, apparent.

The solitary libertine may be known partly by these signs, and, in addition, by the following: In conversation he never looks you full in the face, but averts his eyes, especially downward, as if ashamed of himself. He also avoids meeting the glances of females, yet steals every opportunity to look at them, and intently observes, particularly those portions which constitute and characterise the sex. Though very shy of females, and all in a tremour while in their presence when others are by, yet when alone he is forward and gross in his advances, and apt to take liberties; and is silly and sickish in their company, as if prompted by a mean passion, instead of being actuated by that love "which maketh not ashamed."

Mark well this fundamental difference between the conduct of those who are actuated by true love, and by lust in any of its forms. "Love and Parentage" points out the heaven-wide difference between the two, and shows in what it consists. Now, precisely this difference obtains touching the manners, carriage, expression, everything of his conduct towards women, whose Amativeness is pure or perverted.

The private sensualist may be further known by his pallid bloodless countenance, and hollow, sunken, and half-ghastly eyes, the lids of which will frequently be tinged with red; while, if his indulgence has been carried very far, he will have black and blue semi-circles under his eyes, and also look as if worn out, almost dead for want of sleep, yet unable to get it, &c. He will also have a half-wild, half-vacant stare, or half-lascivious, half-foolish smile, especially when he sees a female. He will also have a certain quickness yet indecision of manner; will begin to do this thing, then stop and essay to do that, and then do what he first intended; even in such utterly insignificant matters as putting his hat here or there, &c. The same incoherence will characterise his expressions, and the same want of promptness mark all he does. Little things will agitate and fluster him. Nor will he be prompt, or resolute, or bold, or forcible; but timid, afraid of his own shadow, uncertain, waiting to see what is best, and always in a hurry, yet hardly know what he is doing, or wants to do. Nor will he walk erect or dignified, as if conscious of his manhood, and lofty in his aspirations, but will walk and move with a diminutive, crying, sycophantic, inferior, mean, self-debased manner, as if depreciated and degraded in his own eyes; thus telling you perpetually by his shamed looks and sheepish manner that he has been doing something low, mean, contemptible, and vulgar. His secret practices have impaired both his physical and mental manhood, and thereby effaced both its nobleness and efficiency,

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\* Human character was made to be read without mistake, and in spite of all attempted concealment. And Phrenology can read it. Yet this department of this science most Authors have comparatively neglected; partly, probably, from its difficulty, and partly on account of the expense of the illustrated engravings. But Vol. VIII. of the "American Phrenological Journal" will present this subject somewhat fully, and furnish its readers with signs and clues of character little suspected, and perfectly certain in their application.

and deteriorated his soul, besides having ruined his body. Be entreated, oh foolish and wicked! not thus to dethrone the man and enthrone the animal!

He will, moreover, be dull of comprehension, incorrect, forgetful, heedless, full of blunders of all sorts, crude and inappropriate in his jokes, slow to take the hint, listless, inattentive, absent-minded, sad, melancholy, easily frightened, easily discouraged, wanting in clearness and point of idea, less bright than formerly, and altogether depreciated in looks and talents compared with what he would have been if he had never contracted this soul-and-body-ruining practice.

Pain at or near the small of the back is another dark symptom. It at least shows that the sexual apparatus is diseased, because the nerve from them enters the spinal column at this place, so that their inflammation renders it proportionally tender and painful. Sexual excess in any of its forms will give this pain. True, other causes may have deranged these organs, and given this pain, yet this is the *great cause*. Some victims of this passion have running sores on the small of the back, and are generally tender there.\*

Many other signs evince carnality, yet these must suffice. Nor am I quite clear in giving even these, because they will expose so many of my erring fellow-men now unsuspected; the Christian and the Phrenological course being to *hide sin* instead of proclaiming it. Yet again, such are dangerous, and ought to be exposed—at least allowed to tell their own carnal story. Let every sensualist, especially the *private libertines*, remember that he is marked and known, and read by all men who have eyes and know how to use them. This exposition is made in part to *shame* them out of degrading vice, into moral purity and virtue.

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## CHAPTER IV.

### REMEDIES.

Thus much of these evils. Next their REMEDIES. All the penalties of nature's violated laws are not wholly incurable. A "healing balm" is kindly furnished for such wounds as are not mortal. Though it may be impossible, after these evils have become aggravated, for their subject to be as healthy and happy as he would have been if he had never sinned, yet our merciful Physician has furnished at hand both palliatives and restoratives, by the judicious and thorough use of which he may become as sound in body and as strong in mind as he ever has been; perhaps better, because he is yet immature. When the consequences of this vice have not gone so far, as to impair or destroy the *structure*, a comparative cure is attainable; and even though the organisation itself is seriously affected, yet, as nature restores a broken bone, or flesh wound, so here she will often repair breaches apparently irreparable. Though as a broken bone or a sprained joint is more liable to subsequent injury than if it had never been impaired, yet, as long and as far as life and constitution remain, they hold out the blessed promise of recovery and happiness. Unfortunate reader, however foolish and sinful you may have been, never despair; first, because discouragement greatly impedes cure; and secondly, because the constitutional tendency of your disease is to render you more gloomy and disheartened than you need be. Be it that your case is bad, you regard it as much worse than it really is. If it were fatal you would be now literally *dying*. The flag of truce is yet flying. Because you have entered the broad road, you are not compelled to go down to final ruin. The door of escape is yet open. Few cases are desperate. Most men can be wellnigh cured. Listen then to the means of salvation.

Though there may be, doubtless, growing in our woods and fields a specific cure for you, as for most other ills that flesh suffers, yet rely not on medicines, especially those generally prescribed by physicians. They do not understand these complaints, but generally aggravate them. *You must cure yourselves*. Nor is the task

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\* Some of these symptoms arise from other causes; and some persons will indulge in forbidden courses without exhibiting others of them. There is great danger, and ought therefore to be great care, in judging of men's character from those signs.—Ed.

easy ; it requires *effort, perseverance, and temporary self-denial*. You must DO, instead of passively folding your arms, to which you are inclined. Be it that a cure requires hard work, are not LIFE, HEALTH, *happiness*, worth working hard to obtain? If in the Niagara rapids, and certain to be precipitated over its yawning precipice in case you remained passive, but could save yourself by a powerful effort, would you fold your hands? Would you not tax every energy of life to its utmost? What will not man do for his LIFE? And your *life* is at stake, and is the prize of effort. I hear your eager inquiry, "What shall I do to be saved?" I answer,

## ABSTAIN TOTALLY.

The least indulgence weakens hope, and is like paddling the canoe *down* the Niagara rapids, instead of towards its banks. Gradual emancipation, like leaving off drinking by degrees, will certainly increase both indulgence and suffering. This is true of *all* bad habits—is a *law of things*, and especially applicable here. "Now is the accepted time; behold *now* is the day of salvation." Some of my contemporaries advise occasional indulgence. From this I dissent, and *totally* and unequivocally condemn *all* indulgence, every instance of which both augments passion and weakens resistance, by subjecting intellect and moral sentiment to propensity. If you cannot conquer now, you never can. *Make one desperate stand and struggle. Summon every energy! Not once more? STOP SHORT!!* "Touch not, taste not, handle not," lest you "perish with the using." Flee at once to *perfect continence*—your only city of refuge. Look not back towards Sodom, lest you die! Why will you go on to commit suicide? Oh! son or daughter of sensuality! are you of no value? Are you not GOD-LIKE, and God-endowed, born in your Maker's image, and most exalted, both by nature, and in your capabilities for enjoyment? Oh! will you, for a low-lived animal gratification sell the birthright of your nature—all your intellectual powers, all your moral endowments, all your capabilities of enjoyment, and crowd every avenue and corner of both body and soul with untold agony? Behold the priceless gem of your nature! Oh! snatch it from impending destruction. TOTAL ABSTINENCE IS LIFE; life animal, intellectual, moral. IDULGENCE IS TRIPLE DEATH! RESOLUTION, DETERMINATION TO STOP NOW AND FOR EVER, is your starting point; without which no other remedial agents will avail anything. ABSTINENCE OR DEATH is your only alternative. STOP NOW AND FOR EVER, or abandon all hope. Will you long debate which of the two to choose, slavery and death"—and *such* a death—or abstinence and life? Do you "return to your wallowing," and give up to die?

No! Behold and shout the kindling resolve! See the intoxicating, poisoned cup of passion dashed aside. Hear the lifeboat resolution: "I wash away the stain of the past in the reformation of the future! Born with capabilities thus exalted, I will yet be the man; no longer the grovelling sensualist! Forgetting the past, I once more put on the garments of hope, and press forward in pursuit of those noble ends to which I once aspired, but from which this Delilah allured me. I will rise yet! On the bended knees of contrition and supplication, I bow before Jehovah's mercy seat. On the altar of this hour I lay my vow of abstinence and purity! No more will I sacrilegiously prostitute those glorious gifts with which Thou hast graciously crowned me! I abjure for ever this loathsome sin, and take again the oath of allegiance to duty and to Thee! Oh! 'deliver me from temptation!' Of myself I am weak; but in Thy strength I am strong! Do Thou work in me to 'WILL and to do' only what is pure and holy. I have served the 'lusts of the flesh,' but oh! forgive and restore a repentant prodigal, and accept that entire consecration of my every power and faculty to Thee! Oh, gracious God, forgive, and save, and accept, and Thine shall be the glory for ever. Amen."

"I rise a renewed man! My vow is recorded before God! I will keep it inviolate. I will banish all unclean thoughts and feelings, and indulge only in holy wedlock. I will again 'press forward' in the road of intellectual attainment and moral progression; and the more eagerly because of this hindrance. I drop but this one tear over the past, and then bury both my sin and shame in future efforts of self-improvement and labours of love. As mourning over my fall does not restore, but unnerves resolution and cripples effort, I cast the mantle of forgetfulness over the past. I have now to do only with the future. Nor must I remain a moment passive and idle. I have a great work before me, first to repair my shattered constitution, which is the work, not of a day, but of my life; and also to recover my mental stamina and moral standing, and if possible, to soar higher still. What shall I do first?"

## REGAIN YOUR HEALTH.

Your sufferings and losses grow mainly out of the injury it has sustained, and to regain it is indispensable to both effort and enjoyment, and to your salvation from the consequences of past sins, and prevention of future ones.

In effecting this restoration, you have mainly to obviate that inflammation already shown to have chiefly engendered your sufferings, and produced disease. *Reduce it*, and you both forestall farther injury, and give to Nature, your great physician, an opportunity to repair the breach.

By what means, then, can this inflammation be reduced? But whatever will relieve it when created by any other cause. Of all the means of reducing inflammation, I regard the application of cold water as the most efficient. Venereal excess deranges both the circulation and the skin, both of which, water, especially in the form of a shower or hand bath, will do more to restore than almost any other restorative agent.

*Wash your whole person* every morning, summer and winter, and follow with friction. I recommend the hand-bath to begin with, as enabling you to regulate it according to your feelings. Dash on the water quickly, so as to produce a partial shock, but stop instantly on the first sensation of chill. Then follow actively with a coarse towel, or flesh brush, and rub briskly, till you produce a delightful glow; otherwise it will only injure. Every other morning, if your system is low, may be often enough. Consult your own feelings. Make it agreeable, and it will be beneficial, and also kill desire, especially for the time.\* Both the warm and the steam bath, say once per week, will be found excellent.

Another excellent remedial agent will be found in wetting one end of a long bandage, and putting it on or below the spine of the back, and then wind the remainder several times around the body; or else lay on a wet cloth, and wind a woollen bandage over it, so as by keeping this place wet and warm to *sweat out* the disease there located, which has already been shown to be its principal seat. A similar wet cloth and covering worn upon the sexual organs themselves, will also be of almost equal service, and for a similar reason. So will the sitting bath in warm or cold water, (as is most agreeable), especially for female patients, sitting from one-fourth to three-fourths of an hour daily.

Both to kill desire and to restore health, a frequent *laving* of these organs in cold water will be found most beneficial, especially when desire arises, *which it will banish*. An acquaintance, whose Amativeness affects him much, says he has found great relief from *shaving* the organ, or the back of the neck and base of the brain, letting the hair from above partly cover the shaved portion, and then frequently washing it in cold water. He adds that the cool air on the organ thus allowed is most agreeable. Binding a wet cloth upon the nape of the neck will also both relieve and cure. The ease of this has already been given.

Galvanism and magnetism, and Sherwood's magnetic pills, have effected some surprising cures of this disease, and especially of female complaints; yet the former, being a powerful tonic, must not be used too freely. Still, except in some cases, physiological prescriptions and preventives will generally be found to work a more effectual cure than those medicines (of which I unequivocally disapprove) used by the faculty.

## AVOID ALL STIMULANTS AND IRRITANTS.

Inflammation being the chief cause of your difficulty, everything calculated to increase it is unequivocally bad. Hence, abandon wholly at once *tea, coffee, tobacco, and all stimulating meats and drinks*, otherwise your struggle will be much more doubtful, tedious, and desperate. Any other fire burning in the system will augment this. Tea, coffee, and tobacco, the last two in particular, are powerful narcotics, and, like opium, though soothing at first, only ultimately *reinflame*, and are of themselves sufficient to keep up both the disease, the desire, and the inflammation you would

\* To digress sufficiently to give direction for bathing would be inconsistent. The rules and directions for bathing most beneficial in other cases, are best in this case. The Author has never seen this subject presented to his liking, but will present it fully in the *American Phrenological Journal* for 1846.†

† We intend to publish extracts from the *American Phrenological Journal* in penny numbers. We have already published the following uniform with this work. "MATRIMONY," "LOVE AND PARENTAGE," "INTEMPERANCE AND TIGHT LACING," &c. For this list see Catalogues. A sponge bath is as good as either shower bath or hand bath.—ED.



conquer. They even often *induce* them, by causing an irritated, craving state of the nervous system, which aggravates desire from the first, by inflaming the nervous system, and of course the base of the brain. It is a settled physiological fact that *whatever stimulates* the body thereby proportionately irritates the base of the brain. Amativeness in particular, and thus causes lust, as well as sinful propensity in general. By this means it is that all intoxicating drinks cause both lust and depravity. It is their stimulating property which does this, and whatever stimulates the body thereby stimulates the whole base of the brain in consequence of that most intimate relation existing between the two, and therefore excites this passion, and more, probably, than any other. Now tea, coffee, and tobacco all stimulate, and of course excite both sinful propensity in general, and lustful desire in particular. The quid and the cigar have made sensualists and Onans by the *legion*. Nor is coffee free from a like charge, and tea is also injurious.

This is not all theory. It is sustained by *facts*. An acquaintance of the author, whose passion, professor though he is, is yet so rampant that he can govern himself only with the utmost difficulty, says, that after he has restrained himself for months, and got desire under subjection, a few cups of strong coffee will set him literally crazy after the sex, so that slight temptation will induce indulgence, and then, the helm carried away, self-control is out of the question till this passion has run him through and out, and brought him up debilitated and all on fire by excess, and penniless, after having squandered the savings of months, perhaps years of industry. He also recommends cathartics, yet their effect can be only temporary. Ultimately they must debilitate the system. He says nothing saves him but "TOTAL ABSTINENCE" from both indulgence and from all stimulants.

Besides, why make "flesh of one" passion "and fowl of another?" Why not *sweep the board*? Break away from all bad habits. Conquer *every* lust, and be the *man*, for in nothing consists the true dignity and glory of our nature more than in SELF-GOVERNMENT. "Even if thy right *eye* offend thee pluck it out, and cast it from thee." Much more may you abandon that filthy and confessedly injurious habit of tobacco-eating and burning; else it may yet shipwreck your hopes. Come, arise in the might of manhood, and conquer *this* as a means of overcoming *that*.

And ye daughters of loveliness whom this feeling has injured, but who would return again to purity, health, and happiness, sip no more of the beverages of China, no more of the drinks of Java, for both will only add fuel to those polluting fires you wish to quench, as well as perpetuate the disease you would subdue. Try the experiment if you doubt this logic. Compare a mouth of abstinence with one of tea and coffee drinking. Already your system is all alive with feverish excitement, which these drinks enhance, and this deepens your gloom and your misery. If you would be yourself again cut off *this* right-hand gratification as a means of overcoming *that*. And if you ask what you shall drink at your meals I say nothing is best; yet cocoa, chocolate, or warm water seasoned, or bread coffee, rice coffee, pea coffee, corn coffee, &c., will be good substitutes, as they do not inflame and are palatable.

For a similar reason, meats, mustards, condiments, peppers, spices, rich food, gravies, everything heating and irritating, will only add to existing inflammation, and increase both desire and disease. Do not keepers of horses, who wish to fire up this passion in them do it by *feeding high*? Farmers do the like by the female, in order to create the required desire. Do not men and women, by the licentious thousand, live luxuriously for the *express purpose* of kindling this disease? Go and do the opposite ye who would produce opposite results.

Some kinds of food, as already specified, excite amorous desires, while others, as rice, bread, fruit, vegetables, &c., do not, and may therefore be eaten, yet sparingly, because you are yet weak, and because over-eating, even of the plainest food, is injurious. We have also seen that sensuality is apt to excite appetite and derange digestion. Coarse or Graham bread, with fruit, or rice, or sago, or tapioca, or potato starch pudding, &c., will tend to obviate inflammation, and allow the system to rally.

In regard to regimen Dr. Woodward remarks thus:—

"The regimen must be strict, the diet should be simple and nutritious, and sufficient in quantity. It should be rather plain than light and abstemious; no stimulating condiments should be used; the suppers should be particularly light, and late suppers should be wholly avoided. All stimulating drinks, even strong tea and coffee, should be discarded; cider and wine are very pernicious; tobacco, in all its forms, not less so."

As to suppers I recommend *none at all*. A full stomach induces dreams, or the exercise, in sleep, of those organs most liable to spontaneous action, which in this case is Amativeness, which produces libidinous dreams, with accompanying night emissions, which weaken and disease equally with indulgence. No supper at all also allows the dinner to become fully digested, which facilitates sound sleep—nature's great restorative. Never fear starvation. We all eat twice too much. The gluttony of our nation is one great cause of its sensuality, which fasting will of course tend to obviate. Try the experiment. A friend thus afflicted has found great relief therefrom. Above all things

## KEEP DOING.

"Idleness is Satan's workshop" in this respect pre-eminently. Keep your mind employed, and lewd feelings can find no entrance; but, unoccupied, they rush in unbidden, and renew former associations and habits.

But be very careful not to *over do*, especially *overlift*. As you recover you are in great danger of considering yourself stronger than you really are, and thus strain your back and bring on a relapse of your night difficulty. Mark this caution.

Graham's recommendation to touch these organs as little as possible, and to bring up children thus I cordially endorse, because contact necessarily promotes both desire and inflammation.

## WEDLOCK.

"Love and Parentage" showed that this function depended on a primitive faculty, and was therefore spontaneous, and no more to be suppressed by force of will than appetite. Its excess can be restrained, but its promptings are constitutional and indispensable to perfection of character. Nor should they be wholly eradicated, only *rightly directed*. The marriage state constitutes their ultimate terminus, and only virtuous direction and exercise. Nor will, probably, anything equally with this ordinance of nature recall this passion from its wanderings, and sanctify it to virtue. Pure spiritual love furnishes a substitute for its obscene gratification, which both satisfies this faculty and prevents perversion. But this position is too self-evident to require comment.

## CHAPTER V.

## PREVENTION.

An ounce of prevention is worth a pound of cure, here pre-eminently. *Not to begin* is the only safety. Nor is this prevention difficult. Nature has taken effectual means to secure this end. That wall of native modesty which she has thrown around every well-constituted youth is ample protection. They only require to be put on their guard. They would not fall into these habits unless *coaxed* into them, nor then if they once suspected them of being either wrong or injurious. Such knowledge would furnish an all-powerful stimulant to modesty, and render it effectual. They now suspect no harm, and *intend* no more wrong than in eating. To know that self-abuse is virtually on a par with sexual intercourse in its corrupting influence on the mind, and in its injury of the health, would awaken Conscientiousness to joint effort with modesty, and save nearly all. But ignorance lulls conscience, and persuasion and imitation overcome shame, and they enter the broad road, and soon find that death is in the practice. The simple knowledge of the fact that these practices sap their capabilities of enjoying the same pleasure in wedlock, would also prevent personal indulgence, as in "Love and Parentage" it was shown to be a preventive of licentiousness. *Diffusing appropriate knowledge and circulating appropriate books* on this subject will work an effectual cure. And I anticipate great good from the means and efforts now in progress touching this matter.

## THE PREMATURE DEVELOPMENT OF AMATIVENESS

is, however, the great hot-house of sensuality in all its forms. Nature has taken special pains to *postpone* the development of this instinct till intellect has attained sufficient strength to guide it, the moral sentiments power enough to sanctify and restrain it, and the body sufficient maturity to sustain its drain with impunity. Is not this postponement a most beautiful provision? If it had made its appearance as early as the others, it would have withdrawn those energies from the system required for growth, yet have done no good. As it is, however, nature postpones the matrimonial desires till the subject is prepared to regulate this instinct, and convert it into a means of incalculable enjoyment. At precisely what age it should develop itself it may be difficult to say, but certainly not till from the eighteenth to the twentieth year, and then it is held in effectual check by native modesty for a considerable time before it acquires sufficient impetus to make love outright, and finally takes years to ripen into a state prepared for marriage—at least for its ultimate rights.

Would to God and humanity that nature were allowed to have her perfect work in this respect. But alas! our youth are reared in a hot-bed of Amativeness. This impulse is developed several years before its time, and hence, mainly, its perversion. Ye who labour and pray for the banishment of lust and the moral purity of man, mark well the CAUSE OF CAUSES of man's carnality in all its forms. It is the ARTIFICIAL STIMULATION and the PREMATURE DEVELOPMENT of the sexual instinct. Mark the following incentives of premature love, and its morbid, sensual direction, from "Fowler on Matrimony."

1. "*The conduct and conversation of adults before children and youth.*"

2. "*The fashionable reading of the day is still more objectionable.* Whose sales are the greatest? Theirs who publish the most novels and the most exciting love tales. These tales girls are allowed and encouraged to read. How often have I seen girls not twelve years old as hungry for a story or novel as they should be for their dinners! A sickly sentimentalism is thus formed, and their minds are sullied with impure desires. Every fashionable young lady must of course read every new novel, though nearly all of them contain exceptional allusions, perhaps delicately covered with a thin gauze of fashionable refinement, yet, on that very account, the more objectionable. If this work contained one improper allusion to their ten, many of those fastidious ladies who now eagerly devour the vulgarities of Marryat, and the double-entendres of Bulwer, and even converse with gentlemen about their contents, would discountenance and condemn it as improper. SHAME ON NOVEL-READING WOMEN! for they cannot have pure minds or unsullied feelings."

A *heating, stimulating diet* still more prematurely develops this passion. By heating up and fevering the body it of course fevers the propensities, but none more than this. We have already seen that meats, teas, coffee, mustard, spices, &c., stimulate it in adults. Hence they of course induce procacious sensuality in children. On this account, if on no other, these things, coffee in particular, are utterly unfit for the young. Rather feed them on what will *allay* this impulse, instead of prematurely exciting it. Nor can we expect the world to become pure *morally* till a correct system of *dietetics* is generally practised. A heating diet, after all, is the most prolific cause of "excessive and perverted sexuality." Parents, *mind how you feed your children.* Youth, *observe a correct regimen.* Married and single, who would reduce this feeling, eat and drink cooling, calming articles only.

## CHAPTER VI.

## ABORTIONS, MADAME RESTELL; TREATMENT OF THE ERRING; GENERAL CONCLUDING ADVICE.

THE one ultimate end designed to be secured by this propensity is offspring. Hence it should be exercised only by way of carrying out its legitimate destiny. To exercise it merely for its own sake—to trifle with it as a means of sensual gratification, and

then destroy its products—is a violation of its laws, and must necessarily subject the offender to suffering.

Nature has taken the utmost pains to place the seeds of life as far as possible from the reach of destruction, and has also planted them in such intimate proximity to the very life of the mother, that their destruction cannot be effected without seriously impairing her health and shortening her life. No way has ever yet been invented, no way probably ever will be discovered, of artificially producing miscarriages without seriously impairing the mother's constitution. Infanticide is revolting and wicked, and since it cannot be effected without committing *suicide*, more or less, according as it impairs and shortens the mother's life, it becomes one of the greatest crimes man can possibly commit. We shudder at the infanticides committed in the eastern world, but this crime is scarcely less prevalent in our own country. It is committed there after birth, but before it here; yet the *end* attained is precisely the same, namely, *the destruction of human life*. If abortion is effected by drinking any poisonous drug, that poison which is great enough to destroy the life of the unborn infant is great enough to effectually debilitate the mother, from whom alone the child receives the poison. Indeed, a lower degree of poison is requisite to arrest the life of the child than that of the mother, simply because the former is more delicate; but so intimately are they inter-related, that neither can be destroyed without thereby impairing the life of the other.

Nor can this destruction be effected by reaching the embryo through that apparatus in which it is formed, without injuring and diseasing this apparatus, the consequences of which have already been portrayed. This is too clear to require comment.

"Better ruin my health than suffer the deadly shame to which exposure will subject me," says one, whom some strong gust of passion has caused to fall. This odium is indeed withering and ureleuting, but the destruction of health is worse. The dilemma is indeed terrible, but life is sweeter than this odium is bitter, and health will give more happiness than exposure will occasion misery, while the latter will in part be offset by the joys of maternal love.

But the *wife* has no such excuse. She may have others—the pains of maternity, the unwelcome increase of family, inability to support them, injury of health, &c., &c. These excuses are mere trifles compared with that injury of her constitution which abortion will cause. No excuse can justify infanticide and partial suicide combined. Besides, most of these objections can be obviated. The pains of maternity we shall show how to obviate in our work on this subject announced in "Love and Parentage." That founded on inability to support children can be obviated by living more simply. But be the objection what it may, *nothing* can justify the *destruction of human life*; and whoever perpetrates this violation of nature's laws, must suffer its terrible consequences.

#### MADAME RESTELL.

In view of these truths, what shall we say of Madame Restell's life-destroying and *murdering* business? She is destroying the lives of both mothers and embryo human beings to an incredible extent. Few pass through her hands without having their constitutions broken up, and many die in consequence of the mortal wounds she inflicts. If human life should be protected by law—if murderers should be punished by law's most severe penalties—she surely should be punished, and her deathly practice be at once arrested. And yet behold her patronage, her riches, and her utter contempt of law in her ability to bribe its administrators.

She proffers a passport to lust, and in effect says to our youth and to all: "Indulge your carnal passions, and if its natural consequences follow, come to me and I will hide your sin and shame, and make you as if it had not been." But beware! A lie is on her tongue, and a dagger in her hand. A certain beautiful and healthy young woman, who had been seduced, was taken to Restell, to be delivered of the fruits of her sin. She almost died during the operation—and many *do die in and by the treatment itself*—but returned home, her bloom departed, her flesh wasted, her constitution destroyed, a vital artery tapped and bleeding, and after lingering thus a few months, *died*. This is but a sample case. Oh, daughter of passion! beware how her flattering promises of deliverance encourage you to sin! In *virtue alone* is there safety and happiness.

## TREATMENT OF THE ERRING.

Far be it from us to pander, in any form, to this sin. If we regard one form of virtue as more holy than any other, it is moral purity. If we regard one sin as more black and hideous than any other, it is this, because so prolific a cause of *crime*, and so terrible in its consequences. If we have one "desire and prayer to God," it is that we may be instrumental in staying the current of lust, as well as in sanctifying that function of our nature to which this work, in common with "Love and Parentage," is devoted, by promoting CONNUBIAL LOVE—its legitimate terminus. We reason, we beseech, and show "a more excellent way."

But when our fellow beings have fallen, we would not crush them in consequence. "A bruised reed shall he not break." We would rather apologise. We would say to beholders: "These unfortunate manifestations of carnality doubtless had a physical origin. Ignorant of the laws of Physiology, these erring sons of passion, and these daughters of frailty, had lashed up these feelings by heating meats and drinks, by novel reading, by blasted affection, by giving their minds to this class of subjects, till this propensity became uncontrollable, and in a moment of its preternatural action, they sinned. They were, in all practical respects, deranged. A fevered state of their bodies had wrought up this passion to an insupportable pitch of tension, and they sinned in consequence. They were more *sick physically* than depraved in motive. "They knew not what they did." And the licentious of our land required to be *cured in body* as the means of restoring them to virtue. We have *demonstrated* that this passion is induced by a *disordered physiology*, quite as much as by depravity of intention. There is a certain epidemic disease, the subjects of which, when recovering, are tormented with a fury of lustful desires which will cause the most virtuous in the world to stray. Now suppose a similar physical derangement had caused them to say and do in anger many hard things against us, which we knew they would not have said and done if they had been well; should we lay up against them these wrathful ebullitions—the offspring of disease? No; but should attribute all to *sickness*—to temporary derangement or alienation of mind, and *pity*, not blame relentlessly. Precisely thus should we regard much of the sensuality of mankind. It is the legitimate and necessary offspring, to all *practical* intents and purposes, of *mental derangement* induced by physical disorder. Its subjects are sinful, but they are also *sick*, and their *physical* derangement occasions their *moral* dereliction.

This doctrine will find opponents, but not *refuters*. The fact is *indisputable*, that certain meats, and drinks, and regimen create passion. Ignorantly they have kindled up the fires of lust till they are goaded on to indulgence by a power of passion well nigh irresistible. As the lustful feelings of those recovering from the fever above mentioned had a *physical cause*, not a moral origin, so with most of the sons and daughters of lust. In the case of the fever, nothing but a straitjacket, or the absence of the other sex, could prevent indulgence. Goaded on by its fury, nothing will stop those before pure minded, and even the aged—who before was passed the natural period of these impulses, from committing rapes; or, if females, from proffering the most wonton solicitations. So in kind, though less in degree, with the dissolute of both sexes. They are not irresponsible for their conduct, but are principally guilty for having thus inflamed their bodies, and thereby this passion. But this they did *ignorantly*. As he who murders while intoxicated, is more guilty for getting drunk than for the murder, so these sinners sin *ignorantly*. Shall they then be cast out of society and crushed in consequence of their ignorance of what few understand? *Inform* them and you *save* them. And this is mainly what is required to stay licentiousness. ENLIGHTEN BEFOREHAND, not rebuke afterwards. *Circulate suitable works*, and encourage properly conducted lectures, and you achieve the most glorious results attainable by man.

## CONCLUDING ADVICE.

In conclusion, let every son and daughter of humanity *investigate the laws*, and *study the science*, of this department of our nature, and then obey them. Let every youth keep this propensity under subjection till it can be lawfully and happily exercised in wedlock. Let the affections never be trifled with, and let that wall of native modesty kindly thrown by nature around this propensity, never suffer a breach, but be *built up* till it is supplanted by the *still* more effectual preventive and enclosure

of spiritual love. Let no one ever indulge this passion with the opposite sex *for the first time*, till married, because this throws wide open the flood-gates of lust otherwise easily kept closed, and most difficult to re-shut—nothing equally firing up this passion. And let us all preserve and *regain our health*, and keep our bodies in a cool and vigorous state, and then cherish that holy, sanctifying aspect of love which raises us above lustful propensity, purifies and elevates the soul, and stamps a high intellectual and moral impress on posterity.



# LOVE AND PARENTAGE

APPLIED TO THE

## IMPROVEMENT OF OFFSPRING :

INCLUDING IMPORTANT DIRECTIONS AND SUGGESTIONS TO LOVERS AND THE MARRIED  
CONCERNING THE STRONGEST TIES AND THE MOST SACRED AND MOMENTOUS  
RELATIONS OF LIFE.

BY O. S. FOWLER, PRACTICAL PHRENOLOGIST.

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### DEDICATION.

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*To all who have ever tasted the sweets of Love, or felt its sting, or consummated its delightful union, or who anticipate its hallowed cup of tenderness, or expect to fold its "dear pledges" in parental arms—more especially to woman, the very embodiment of this angelic emotion—to all who would enjoy its heavenly embrace, avoid its pangs, or render their prospective children healthy, and talented, and lovely, I dedicate these pages.*

THE AUTHOR.

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### INTRODUCTION.

THAT ITS PARENTAGE determines whatever is CONSTITUTIONAL in the nature of every herb, tree, fruit, animal, and thing endowed with life—its shape, texture, aptitude, characteristics, and whether it shall be strong or weak, sweet or sour, good or bad, &c., throughout all that is primitive in his nature—is a law of things governing man, as well as brute and herb ; that which gives existence, by virtue of its own inherent power, also determining whether its products shall be herbs, or trees, or animals, or human beings, and of what kind, and thereby their anatomical structure and physiological constitution ; their original strength or feebleness of body and mind ; their predisposition for virtue, or hankering after vice—all that goes to constitute the sum total of their natural characters. Its law is, "EACH AFTER ITS KIND." Nor "each after its kind" merely, but "after its kind" at the time the being or thing received existence ; that is, as are the parents physically, mentally, morally, when they stamp their own image and likeness upon progeny, so will be the constitution of that progeny. Education may modify, direct, increase, diminish, &c., but remodel what is CONSTITUTIONAL it never can. It can neither create nor eradicate any primary capability or quality of any animal thing. Though,

"Just as the twig is bent the tree's inclined,"

the bramble cannot be bent to bear delicious peaches, nor the sycamore to bear grain. Education is *something*. but PARENTAGE is almost EVERYTHING, because it "DYES IN THE WOOL," and thereby exerts an influence on character almost infinitely more powerful

than all other conditions put together, maternal before and after birth not excepted. This is the great sower of humanity. If it sows tears, humanity reaps sorrow—reaps the whirlwind when it sows the wind ; but its good seed bears fruit a hundredfold, to the glory of God, in the highest happiness and perfection of His creatures, here and hereafter. Nor can that corrupt and bitter stream of human depravity and woe now bearing on its dark waters most of mankind be purified and sweetened, except at its fountain-head. There it may be—must be, if at all. Morality may weep in anguish ; Christianity may preach and pray ; education may teach ; and philanthropy may labour ; but it will all be comparatively in vain till parentage takes up the Herculean labour of human reform and perfection.

Thoughtless mortal ! sport not on the brink of relations thus momentous ! By all the happiness your children are capable of experiencing, if endowed constitutionally with the very perfection of our nature, mentally and physically, I conjure you, before you allow the first goings forth of love, to learn what parental condition in you will confer so great a boon on the prospective bone of your bone, and flesh of your flesh ! By all the happiness it is possible for you to enjoy here and hereafter in your children, or for them to enjoy in themselves and their descendants—if they should be beautiful, healthy, moral, and talented, instead of diseased and depraved—as it is your imperious duty to impart to them that physical power, moral perfection, and intellectual capability, which is nearest to perfection, prospective parents ! oh, pause and tremble ! Will you trifle with the dearest interests of your unborn children ? Will you, in matters thus momentous, rush headlong ? Yet, how many parents tread this holy ground completely unprepared, and almost as thoughtlessly and ignorantly as brutes—entailing even loathsome diseases and sensual propensities upon the fruit of their own bodies ; whereas, they are bound by obligations the most imperious to bestow on them a good physical organisation, along with a pure moral and strong intellectual constitution, or else not to become parents ; especially since it is easier & happier to generate human angels than devils incarnate.

Once more : words are utterly powerless to pourtray the amount, the aggravation, and the almost universality of the perversion of that element designed expressly to perpetuate our race ; nor can any other means whatever obviate or prevent either this perversion or its consequent misery, but sanctifying this propensity. This work proposes this high object by the simple but effectual instrumentality of properly directing the love and promoting the affections of mankind.

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## CHAPTER I.

PARENTAGE, AS TRANSMITTING ITS VARIOUS PHYSICAL AND MENTAL CONDITIONS AND QUALITIES TO PROGENY BY MEANS OF THE NATURE, FUNCTIONS, AND ADORNING INFLUENCES OF LOVE.

Love is the fulfilling of the law. Those that love most are most god-like, for “God is love.” This divine sentiment forms a constituent element of man’s primitive constitution. None are wholly destitute of its charms, of its sweets. Blot it from the soul of man, and you blast his nature.

But there is a “friend that stieketh closer than a brother.” There is a tie *stronger than life*. It is that oneness of soul “which binds two willing hearts” indissolubly together, and makes “of them twain one flesh.” Connubial love ! Thou “holy of holies” of human emotions ! Thou queen of earth ! Thou glorious sun of our nature ! Thou garland of terrestrial loveliness ! Thou solace and sanctifier of man ! Thou life and soul of woman ! Thou precious relief of Paradise ! Thou Paradise of itself ! Oh, God, we thank Thee for emotions thus holy ; for bliss thus divine ! We bless Thee for a foretaste of heaven so rich, so enchanting ! The gold of Ophir, the nectar of Eden—all earthly blessings—are but as stars, and this the sun !

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## SECTION I.

ADAPTATION OF PARENTAGE, AND FUNCTION, AND LOCATION OF AMATIVENESS.

Parentage perpetuates our race. Besides re-supplying the ravages of war and pestilence, of Death in all his insatiate cravings, it even far outstrips him in swiftness, and rises above him in might, literally *defying* his power to



annihilate the species. Man *will* multiply, the earth *will* be replenished, in spite of him !

What magnificent results from an arrangement so simple ! Wastes, but yesterday desolate, to-day it is beginning to people, and anon will have crowded with homes, hamlets, villages, and cities, swarming with countless millions, and teeming with life and happiness. It plants its seeds of humanity upon solitary islands, and then fills them with throngs of busy occupants. It sends its hardy progeny almost to the icy poles, to multiply in spite of all that is terrible in the utmost of cold, and wind, and storm. Aton it takes possession of the tropics, still urging on its grand process of propagation, though melted to weakness, and scorched to blackness. In short, wherever life can be sustained, thither does this prolific principle send the swarming trophies of its power to "multiply and replenish the earth," till it is literally *full*. But for this, or a kindred arrangement, our earth would have been a solitary waste, without one living soul, except the first parents of our race, to have enjoyed its beauties and its bounties. Even beast, bird, fish, reptile, insect—animal life in every form and grade, other than the first-created pair—would have had no existence ; and all the adaptations of water, air, and earth to their subsistence and happiness would have been in vain. Even the entire vegetable kingdom would have passed away in its very infancy, to return no more for ever ; because reproduction here is also effected by that great principle of parental agency which obtains in the world of animation and sense.\*

Considering, then, either its extraordinary efficiency in reproducing such vast hordes of herbs, trees, animals, and human beings, or its own philosophical beauty or perfection, surely no department of creation evinces more the very *infinitude* of His concurrent wisdom and goodness who made all things, than this arrangement of parentage ; nor is *any* more promotive of human progression in numbers and happiness ; for it is the beginning and foundation of all the interests of man—those myriads of human beings who have thus far inhabited our earth, and the millions that now enjoy its luxuries, each being but the product of this great contrivance, as will be all those who, in all coming time, may rise up in successive generations to people this world and another.

Nor is an end thus important, thus all essential even to human *existence*, left to be carried forward by intellect or morality alone ; it is enforced by all the resistless authority of a *demand of our natures*. "Be fruitful and multiply" is a *law of our very being*, written in ever-living characters upon our *primitive constitutions*. Otherwise man—all that lives—would soon cease to be ! As, in case he had been created without appetite or hunger, left to eat what and when his other faculties dictated, he would probably never have known that he required food, or, knowing, might have forgotten to eat for days together ; so, without some *primary faculty* devoted expressly to propagation, how few, even of our own selves, would ever have been born ! Or, destitute of its promptings, how many of us would voluntarily subject ourselves to all the expense, trouble, and various pains consequent on bearing and rearing children ? Not one in thousands, especially of mothers. We probably should never have known even the use of some of our organs, and certainly could never have used them. Blot this faculty from the soul of man, and it is doubtful whether even *another generation* would be brought forth to carry on that ceaseless din of business, happiness, and life, with which this arrangement compels all earth to teem, and all time to subserve. Hence, that same Infinite Wisdom which devised this arrangement of Parentage has engrafted it upon a *primary element* of the human mind, the promptings of which form a constituent and

\* To become fruitful, any and every kind of seed must of necessity have a male and female parent, and the pollen of the latter receive impregnation from the former ; just as must the eggs of fowls, fishes, &c., before they can bring forth their chick or spawn. If this idea should be new to any reader, he will find its investigation exceedingly interesting. But, however instructive and philosophical this whole subject, yet, as this work proposes to discuss it as applied to MAN ONLY, these, its other applications, are dismissed with this passing allusion to their existence merely.

necessary part and parcel of human existence, in order that it may be *effectual* in subserving its end.

This faculty is called AMATIVENESS, and is adapted to man's parental organs, and male and female constitution and relations, and they to it; so that the action of either calls the other also into exercise, on account of the reciprocity existing between them; love being the mental emotion, and this inducing that parental function which perpetuates our race.

That this whole range of mental operations is exercised by means of a cerebral organ, located in the cerebellum, is here assumed, it having been demonstrated in the Author's other works. When this organ is large, or very large, it fills out the head between and behind the ears, and enlarges the top of the neck. It was immensely developed in Aaron Burr, who was one of the most extraordinary men of his own age or any other, for its manifestation in character. It was also large in a "State Prison female, in the Auburn Prison, where she was sent solely in consequence of her total and shameless abandonment in this respect; as well as in that of Patty Cannon, who was notorious for its manifestation, and lived habitually *in and by* its unrestrained indulgence, and had a remarkable faculty of captivating the opposite sex thereby."—[See *American Phrenological Almanac* for 1841.]

When it is very large, and parental love is small, the hind head rises almost perpendicularly above the back of the neck.

When this organ is small, the head, on a line with the eye and top of the ears, projects far back over the nape of the neck, slopes in, and becomes narrow as you descend. This form of head obtains in most infants. See the back of their heads.

The array of proof establishing the existence and location of this organ in the cerebellum—a location peculiarly adapted to its office—is so great as to have *compelled* its admission by most scientific men.

Connubial love and attachment to the opposite sex are in proportion to its size and activity. The husband in whom it is active, and directed upon his wife, loves her with proportionate intensity and fervour; dotes upon her, cherishes and protects her, almost idolises her, and does what he can to render her happy; but when feeble, or not directed towards her, he cares little for her, serves her with reluctance, seldom bestows marks of affection on her, mostly leaves her to take care of herself, perhaps cordially hates and abuses her. So, too, the wife in whom this element is strong, active, and directed upon her husband, thinks all the world of him, his society, advice, services, and caresses; is blind to his faults, but overrates his virtues; is completely devoted to his interests, and esteems it a privilege to promote his happiness, ever at the sacrifice of her own; literally living in and for him, and desiring nothing so much as reciprocity of affection; but, when feeble, or not exercised towards him, she magnifies his faults, depreciates his virtues, disregards his advice and happiness, is unwilling to be beholden to him, refuses his marks of affection, and literally loathes his embraces. It also renders man fond of woman as a sex, and causes him to appreciate and love the feminine in proportion to the intensity of its normal action; and so of woman as regards man.

Its exercise, therefore, becomes a *duty*. As no department of our nature was made in vain, so this was not created to slumber. We are under a *moral obligation*, solemn and imperative, to *become parents*, and thus fulfil this high function, this exalted testimony of us all; nor can they attain the perfect stature of men and women who do not.

Taking its dignified rank, then, among the primary elements of the human mind, its proper exercise, like that of every other function of our nature, is promotive of happiness, and in a pre-emiuent degree. As, in the proper exercise of the eye, or in and by the very *act* of seeing, we naturally experience a great amount of pleasure, and thus of eating, breathing, accumulating, talking, sympathising, constructing, remembering, reasoning, &c., throughout every function of our own nature; so the legitimate exercise of this faculty is designed and calculated, in and of itself, to yield a great amount of pleasure, *besides* that experienced by its living products. Indeed, happiness, both in its

own independent exercise, and in its influence over every other department of our nature, is its sole end and aim, its only constitutional product. Moreover, besides that wide range of pleasure consequent on its *own individual* action, it furnishes to Parental Love the only objects capable of calling forth its full-toned and pathetic energies; which, thus roused and quickened, calls industry into new and more powerful action, in order to provide for their constantly returning wants; adds increased zest to appetite in feeding and eating with them; pleasurably re-augments Cautiousness to guard, provide, and care for them; fans the ready spark of Approbativeness into a blaze of delightful action in *hearing* them praised; redoubles the action and consequent pleasure of Language, by furnishing new listeners and talkers, and those the most delighting and delighted in the world; provides reason with new listeners to its logic, and new "ways and means" for promoting their happiness to be planned and executed, as well as opens up a new and vast field for contemplation; presents Mirthfulness with new and most amusing subjects of merriment and incentives to laughter; furnishes Benevolence with new objects of sympathy; Devotion with new subjects of prayer, and pupils of religious instruction; Authority with new and obedient vassals; Hope with new and most enchanting buds of promise; and thus of every other faculty of man; thereby redoubling, a thousand times over, their action, and consequent enjoyment. Reader, when you grasp this subject in all its bearings, you will see *why* Love and its accompaniments exert so *all-powerful* an influence over the weal and woe of man; *how*, when well directed, they swell the placid stream of human happiness from the rivulet to the mighty river; gently irrigating the whole vale of life till its enriched soil bears, in full perfection, every flower, every fruit, every sweet, which the exhaustless capabilities of our nature can experience. Nor, in all probability, has the most happy of mortals in the domestic relations ever yet experienced to the full of that flowing tide of perpetual pleasure which this element is designed and calculated to pour forth upon every son and daughter of the human family. Behold how inexpressibly happy it renders some who neither understand its laws, nor apply intellect to its guidance, and that with even only moderate physical and mental endowments. How much more, then, mankind in after ages, who shall both understand and apply its laws, and possess an organisation incalculably superior to any now attained!

But, like all the other elements of our nature, it has its *laws*, and they, broken, inflict pain, and pain proportionate to the pleasure consequent on their obedience. Nor could the eloquence of angels pourtray the agony of body and the torture of mind caused thereby. Families gone into perpetual mourning for a dissolute son! Talents, moral worth—all that is noble and god-like—for ever blasted—offered up a living sacrifice on the altar of lust! And by the uncounted million! Confiding daughters of virtue defiled, and sent into hopeless bondage, for a short but most miserable existence, in the land of shameless prostitution! All the nectar of female loveliness and bliss turned into the bitterest gall our natures can drink, and in thickening draughts without number! Husbands and wives innumerable estranged, and rendered intolerably miserable for life! Our *race*, even, corrupted, debased, depraved, and tortured, in ways without number, and degrees beyond computation! Oh! if one deep, continuous wail of the woe caused thereby could break upon the ears of all flesh, ten thousand thunders could not be heard! All would exclaim, "Where is the ark of virtue and safety?" Oh youth! pause and tremble, for you walk upon the very verge of this frightful precipice, ignorant of impending danger! Oh! take this friendly warning. And ye who have sinned and suffered, *sound the alarm*. SCATTER LIGHT! IMPART KNOWLEDGE! We *may*, perchance, light upon the observance of these laws without understanding them, and *should*, if our natures were unperverted; but infinitely better *with* understanding them. Concerning no other faculty, probably, exists an equal amount of ignorance and perversion—of violated law, and consequent suffering. On no other subject do we equally need that information which it is the one specific object of this work to impart, namely, to show *what exercise*

of this function will secure the highest happiness it is capable of bestowing, and what must necessarily induce suffering. If it shall disclose this, it will become a great public benefaction. Bear in mind that it comes to *increase* these pleasures, not to *abridge* them. Let us, then, proceed to investigate this uncalculably momentous subject with clean hands and pure souls, in order to augment our *virtue and happiness*, and escape all the terrible consequences of perverting this portion of our nature.

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## SECTION II.

THE PHILOSOPHY OF PARENTAGE, OR MODUS OPERANDI BY WHICH IT STAMPS ITS "OWN IMAGE AND LIKENESS" ON PROGENY, ILLUSTRATED BY ITS FACTS.

That progeny, vegetable, animal, and human, both derives its primitive constitution, physical and mental, from its parents, and also resembles its parental nature, is a conclusion established by the universal FACT that the products of all genera, species, and individual things reproduced throughout the vast range of creation, "take after" their parentage, those of man being human beings; those of whales, whales; and those of every animal, tree, herb, and thing, being similar to their parent animal, tree, herb, or thing. To perceive that the natures of children are but the perfect *transcripts and blendings* of those of their parents, requires neither the learning of a Burritt, nor the philosophy of a Bacon, but it is a conclusion *thrust* upon us by universal observation and experience.

Nor is this department of nature left to chance. Like every other, it is governed throughout, even to its *minutiae*, by its *laws*, one of which is "*each after its kind.*" Else, our children might be born brutes, or trees, at perfect random. But this law renders them *like their parents*, and thereby preserves the unity of both our own species and every other. This great law of things, "Hereditary Descent," fully proves and illustrates in any required number and variety of cases, showing that progeny *inherits* the constitutional natures and characters, mental and physical, of parents, including pre-dispositions to consumption, insanity, all sorts of disease, &c., as well as longevity, strength, stature, looks, disposition, talents—all that is *constitutional*—and in those various *degrees* in which they obtain in parents, and even *derive* every physical, intellectual, and moral element and shade of character directly from similar ones in parents. From what other source do or *can* they come? Indeed, who can *doubt* a truth as *palpable* as that children *inherit some*, and if some, the *WHOLE* of the physical and mental nature and constitution of parents, thus becoming almost their *fac-similes*?

Moreover, for precisely the same reason that they inherit the constitutional or permanent character of parentage, do they also take on them those *particular* parental conditions existing at the *time* they received being and character. In other words, as they inherit the *constitutional* character of parents, so when circumstances excite even feeble faculties in the latter to temporary predominance long enough to affect the character of those materials employed in the manufacture of life and mentality, children imbibe along with their very being these *temporarily* prevailing characteristics of parentage by the action of that same great law which transmits the *permanent* physiology and mentality when *they* predominate: that is, the mental and physical character *then existing* in parents is fully and completely transmitted to offspring.

But *how* transmitted? By what *instrumentality* is either the constitutional or the temporary character of parentage transmitted to offspring? Perhaps by *magnetism*,\* through the instrumentality of the *secretions*, and their intimate

\* Magnetism, or electricity, or galvanism—all only different names for the same thing differently applied—is now generally conceded to be the grand agent or instrumentality of life in all its forms—all varieties of human, animal, and vegetable

relation of both body and mind. The *law* that governs this whole matter seems to be somewhat as follows:—Man has a *twofold* organisation, the one anatomical, the other magnetic or vital, which are intimately interwoven throughout, the latter by means of its affinities and natural superiority, controlling the form, texture, &c., of the former, and securing its action through the instrumentality of various magnetic connectives, depôts, &c., called *poles*, which, put in action, produce and constitute all the phenomena of life. This magnetic constitution has two great centre poles, the one in the head, the other in the chest. This magnetic nature of parentage is imparted to the germ of life, or embodied in it, only that it is yet folded up or concentrated in that great central pole in the chest where embryo life commences, and then deposited by that function which imparts being in the place provided for its nutrition, where, also, nature has stationed a full supply of maternal vitality to feed it till it can germinate, as the egg germinates when subjected to incubation, or when seeds are supplied with terrestrial magnetism.

If this theory requires confirmation, it has it in the *analogy* existing between the generation and the germination of all that live and grow, from the most inferior vegetable up throughout all gradations of animal and vegetable life. Seed, animal, child, all require the intercourse of male and female parents, from whom they all receive that vital germ which embodies and constitutes their entire character. All grow, and grow much alike. The human germ bears a resemblance to that of fowls so close as to be called *ovum*, the Latin word for egg, and even has that nutritious deposit called yolk, which serves instead of the stomach, though that of the egg contains *all* the nutriment required for incubation and formation, while one in the human germ sufficiently large to sustain it several months, besides forming all its complicated parts, would be exceedingly inconvenient, and hence it receives its nutrition into this stomach from the maternal placenta, as do all species of the mammalia, and for a kindred reason. See also the male and female spawn of fish, and their analogy to the ovaries of all mammalia animals. Quite analogous is the germination of all grains, seeds, roots, nuts, &c., their body, bulk, root, meat, &c., being to them what the yolk is to the egg, and the *placenta* to the young mammalia—namely, furnishing nourishment till they can put forth their roots and draw it from the ground. That they, in common with eggs, *contain* nourishment is evident from the fact that they *impart* it when eaten, yet germination consumes it, and unfits them for food. Now, since true analogy is a certain guide to truth, and since so striking an analogy exists between the generation and germination of all seeds, nuts, grains, vegetables, &c., and the egg, and between the latter and all mammalia animals, may we not rest upon correct inferences drawn from this law? Still,

life included, the bones, muscles, organs, &c., being only the ropes, pulleys, and tools, while this is the master workman or grand executive of every animal function and mental exercise. When applied to grain, roots, herbs, &c., it accelerates their growth a thousand per cent. Animals also are found to be organised on the principles of the galvanic battery, and to generate those positive and negative forces, the alternation and expenditure of which produce every motion and function of nature. [See American Phren. Journal, 1845, pp. 129 and 359.] Strongly corroborative of the doctrine is the fact established by the experience of most persons who have suffered the amputation of a leg, for example, in feeling pain in the foot, or where the foot would have been if still on—a fact perfectly explainable by the doctrine of a magnetic organisation as well as anatomical, but on no other, on the ground that amputation destroyed the anatomical organisation, but not the magnetic.

If this doctrine be true, it is the magnetic constitutions of the materials employed in imparting life which gives them their vitality, efficiency, and power to produce character. And what agent equally befitting this function—equally subtle, ductile, transferable, efficient, and all-pervading—everything required for transmitting this vital or magnetic nature of parentage to the offspring with all that accuracy and minuteness actually attained? Still, be this agent what it may, probably nothing will furnish us with a better illustration of its power and *modus operandi* than magnetism.

strong as it is, those not content to receive instruction from it in this important respect, should bear in mind that it furnishes a *good* illustration of that fundamental basis on which proceeds the generation and germination of all that live and grow.

*Whence AND how*, then, or *BY WHAT law*, does this germ of human life derive its magnetic constitution or mentality, physiology—everything appertaining to its product? Mark well the answer. *All* the secretions partake largely not merely of the *general* condition of both body and mind, but also of their *particular* states for the *time being*. Thus, not only do fevers, jaundice, and other physiological conditions greatly affect, even so as to discolour the urinary, excrementitious, and other secretions, and control their *occur*, consistency, character, &c., as well as accelerate or retard their discharge, so that physicians often inquire concerning them, and prescribe accordingly, but strong *emotions* of various kinds have a similar influence on both these and all the other secretions, sometimes effecting copious secretions and discharges of tears; sometimes, as thinking on a favourite dish, “making the mouth water,” that is, causing a copious manufacture and discharge of the salivary secretions; pleasurable emotion augmenting the vigorous and healthy secretions of the liver, and grief retarding or impairing them—nothing equally inducing dyspeptic and kindred affections—and *vice versa* of joy, and thus of *all* secretions. Now, since the organic and mental conditions actually control the character of even *these* secretions, *much more* do they control the character of *the* secretion employed as the messenger of life; and the more so since this secretion *in particular* is known to be so intimately related to the mind that it cannot be voided, even in sleep, without the concomitant exercise of its corresponding mental emotion, and often can be voided simply by its indulgence, which always effects that distension requisite and preparatory thereto. Indeed, what stronger proof can be required or had of the perfectly sympathetic relation actually existing between its character, discharge, and everything appertaining to it on the one hand, and the states of the mind and body on the other, than that furnished by the experience of all who have experience in this matter? Now, since this reciprocity is *known to exist in part*, it is, of course, *complete*, and thereby the existing magnetic conditions of every element and function of both the mind and body of parentage, and in all their shades, and phases, and degrees of action and conditions, are transferred to this secretion, and through it transmitted to that physical and mental constitution of progeny derived therefrom!

This reciprocity is still further established and facilitated by the location of Amativeness, the cerebral organ of this function, it being situated at the upper extremity of the spinal cord—that great central railway of nervo-magnetic travel by which every organ of the system communicates with all the other organs and parts—and this secretion taking place at the other, its place of starting on its mission of life being immediately at its base. The destruction of life always consequent on severing this nervous track, and of sensation in the arm, or any other part, consequent on the cutting of the nerves that connect it with this cord, and thereby with Amativeness, and much more to the same effect, all going to show how intimately Amativeness is related to both this secretion and to the existing condition of every other portion of the system.\*

By way of illustrating the *how* this transfer of both the permanent and the existing physiology and mentality of parents to this secretion, and through it to offspring, probably occurs, let us suppose this magnetic *agent* of such transfer to be composed of various ingredients which might be denominated *sub-fluids*, one of which represents and produces anger, another kindness, another love, and others reason, taste, and thus of every other mental faculty, as well as of every bone, muscle, and physical organ of parentage. Now, those

\* For a much more complete view of the perfect reciprocity sustained by the cerebellum, and of course by Amativeness, to all portions of the system, see *American Phrenological Journal* for 1845, page 359.

children that receive existence and constitution when all these sub-fluids maintain their *usual* relative power and activity in parents will resemble these parents *in every particular*; but those that receive being and impress when the angry, or the kindly, or the intellectual, or any other sub-fluid prevails in parentage, and is therefore imparted in existing relative predominance to the materials of life, will inherit those sub-fluids in their *then existing* predominance or deficiency; some of which may be greater in the child than in either parent, because augmented by increased activity in both parents, and others less than in either, because little excited in either; while those begotten when circumstances have conspired to diminish the combative sub-fluid, and increase the moral, for example, or any other, will receive from parentage a *proportional* endowment of the *temporarily* prevailing sub-fluids and consequent characteristics; and the same when any other faculty or element prevails or becomes deficient in parents at this period; its existing degree of parental action being fully and faithfully represented in these materials, and thereby transmitted to progeny. Furthermore, when one sub-magnetic fluid prevails in one parent, and another in another, at this period, the progeny takes on the then existing *combination* of these magnetic fluids, forces, or qualities; and thus of all their other combinations; nor does it matter so much, perhaps, whether they prevail *temporarily* or *permanently*, so that they prevail *at this period*.

If the preceding illustration of *how* children take on them the existing conditions of parentage is defective, or even erroneous, this would not invalidate the great law attempted to be illustrated by it, namely, that children do actually take on the existing mentality and physiology of parentage.

*Some means, some instrumentality*, are employed in effecting that resemblance borne by children to their parents in physiognomy and character already shown to exist. But *what? Shape is transmitted*; that of fathers, even though their parental relations cease with the deposit of the materials of life. But *how transmitted*? The *magnetic* nature of every living thing determines its form, texture, aptitudes, character, *every thing constitutional*. (See note to page 25.) Put the *magnetism* of the tiger into the embryo calf, and it will assume the *shape and habits* of the tiger. It is thus that malformations occur, as seen in "Hereditary Descent," page 218. Kindred magnetic natures therefore assume kindred *shapes and characters*; and since children derive their magnetic nature from this germ of life, and it is from the existing magnetic constitution of parents, by means of that perfectly sympathetic reciprocity already shown to exist between the two, they of course *are* like their parents *by nature*, and therefore look *like* them. That this explanation is the *true* one is evident from the two incontrovertible *facts* that magnetism embodies the *principle or instrumentality* of life in all its forms and functions, and that this germ of life is so intimately related to, and so fully charged with, the magnetism, that is, the *vitality* of parents. This explains the *rationale* of some, and since of some, consequently of ALL transmission, from sire to son, throughout all the generations of all animals and things that propagate, and shows *why* and *how* rheumatic, cancerous, inflamed, and all other diseased and healthy conditions and affections of *any and all* the organs and parts of parents, are so transmitted as to stamp all their healthy, diseased, rheumatic, inflamed, and all other affections and impresses upon the corresponding organs and parts of offspring—explains *why and how*, when the heart, lungs, liver, stomach, muscles, nerves, brains, phrenological organs, &c., of fathers even, are vigorous or feeble, healthy or diseased, &c., throughout all their ever-varying conditions, during the secretion and deposit of these materials of life, the *child's* magnetic germ of the heart, lungs, muscles, brain, &c., will be similarly conditioned, and of course the organ or part formed therefrom; and thus of *all* parental conditions, qualities, affections, everything whatsoever.

Special stress has been laid on *paternal* conditions. Is then the *mother* deprived of all participation in forming the *constitutional* character of progeny? Has she indeed "neither part nor lot in the matter" of stamping her *own* "image and likeness, physical and mental, upon the fruits of her own body?"

Are not *her* physiology and mentality *also* both represented and transmitted? If not, why should she experience the orgasm?\* And why no product, however well the paternal seed is sown? She at least furnishes the *ovum*, which partakes of her magnetic nature, and her offspring of its. That each parent furnishes an *indispensable* portion of the materials of life, and somehow or other contributes *parentally* to the formation of the *constitutional* character of their joint product, appears far more reasonable than to ascribe, as many do, the *whole* to *either*, some to *paternity*, others to *maternity*. Still we need light on this subject very much, nor can all there is be brought to view without entering somewhat more fully into its physiology and philosophy. Still this decision, go which way it may, does not affect the great FACT that children *inherit* both the *physiology and the mentality existing in parents at the time* they received being and constitution.

But *facts*, even if these reasonings are fallacious, constitute a *sure* guide to truth. George Combe, a high authority truly, in his "Constitution of Man," gives the following case in point:—

"In the summer of 1827, the practitioner alluded to was called upon to visit professionally a young woman in the immediate neighbourhood, who was safely delivered of a male child. As the parties appeared to be respectable, he made some inquiries regarding the absence of the child's father; when the old woman told him that her daughter was still unmarried; that the child's father belonged to a regiment in Ireland; that last autumn he obtained leave of absence to visit his relations in this part of the country, and that on the eve of his departure to join his regiment an entertainment was given, at which her daughter attended. During the whole evening she and the soldier danced and sang together; when heated by the toddy and the dance, they left the cottage, and after the lapse of an hour were found together in a glen, in a state of utter insensibility, from the effects of their former festivity; and the consequence of this interview was the birth of an idiot. He is now nearly six years of age, and his mother does not believe that he is able to recognise either herself or any other individual. He is quite incapable of making signs whereby his wants can be made known—with this exception, that when hungry he gives a wild shriek. This is a case upon which it would be painful to dwell, and I shall only remark that the parents are both intelligent, and that the fatal result cannot be otherwise accounted for than by the total prostration or eclipse in the intellect of both parties from intoxication."

In conversation on this subject with a distinguished judge, he said he employed the principle here involved in regard to his youngest child. Determined at the end of several successive sessions to dismiss business, and recreate awhile with his family, he invited several of his legal and other intimate friends to accompany him, for the purpose of having a delightful festive occasion. Meanwhile, his wife had ordered out the carriage, and came to escort him home. All entered, heart and soul, into the dance, mirth, and music, of the occasion. In the exceedingly agreeable frame of mind of its parents thus induced, this child received existence and character; and, accordingly, rarely cries, or frets, or complains, but will sit on the floor for hours together and amuse herself, always appears perfectly happy, and is one of the best-natured children in the world. Behold the contrast!

A whaleman in N. was severely hurt by a harpooned and desperate whale turning upon the small boat, and smashing it to pieces, one of which, striking him on his right side, crippled him for life. When sufficiently recovered, he married, according to previous engagement, and his daughter, born in due time, and closely resembling him in looks, constitution, and character, has a weak and sore place corresponding in location with that of the injury of her father.

Tubercles have been found in the lungs of *infants* born of consumptive parents, *at birth*—a proof, clear and demonstrative, that children inherit the *several states* of parental physiology existing at the time they received their

\* The sexual paroxysm.



physiological constitution. The same is true of the transmission of those diseases consequent on the violation of the law of chastity, and the same conclusion established thereby.

And now, reader, in the name of truth and sound reasoning, do you require any further proof of this doctrine? Can you open the eyes of intelligence upon it, and yet reject it? Is it so improbable in itself? Is it so at variance with what we already *know* of this matter? Let parents recall, as nearly as may be, their circumstances and states of body and mind at this period, and place them by the side of the physical and mental constitutions of their children, and then say whether this law is not a great *practical truth*, and if it be, its importance is as the happiness and misery it is capable of effecting! The application of this mighty engine of good or evil to mankind, to the promotion of human advancement, is the one specific object of this work, to which we now address ourselves.

### SECTION III.

THE PHYSICAL CONDITIONS OF PARENTS AT THIS PERIOD TRANSMITTED, AND NECESSITY OF HEALTH AND ABUNDANT VITALITY IN ALL THEIR ANIMAL ORGANS AND FUNCTIONS.

The inquiry then becomes truly *momentous*: WHAT parental conditions, at this period, are requisite in order to confer on offspring the strongest and the best physiological organisation possible, and at the same time endow them with the most pure and elevated moral, and the highest intellectual, constitution capable of being conferred or received?

The answer to this eventful inquiry nature has already furnished at our hands, in having instituted this great law of things for our sure and specific guide, our immutable landmark, our pole-star always in sight, and throwing upon this whole matter the clear sunlight of perpetual day, namely, that *whatever* is best *in itself* is always most pleasureable, and whatever affords the most happiness is *therefore* the best in itself; and *vice versa* to what is injurious. In other words, the more perfectly we observe the order and laws of nature, the greater the happiness consequent to all concerned; and *vice versa* as to their infraction and the misery consequent. And since the laws of transmission are among the most important of our whole being, their observance yields a measure of happiness the most exalted imaginable to both parents and offspring, while their violation is proportionally painful to all concerned. Or thus: Every thought, word, and deed, consumes that magnetism the expenditure of which constitutes our very *life and being, and happiness*, as well as executes every function of our whole nature; so that our happiness is as the *amount of magnetism* expended, and this is in proportion to the number and the intensity of the *functions* brought into simultaneous and harmonious action, except that its *abnormal* expenditure is proportionally painful. The correctness of this law every philosophical mind will readily perceive, and its application to the case in hand fully assures us that, *whatever* conditions render *parents* the most happy at this period, *therein* and *therefore* proportionally endow and bless offspring; and this is effected by whatever enlists the greatest number, and promotes the most intense action, of one and all the organs and functions of parents. Let us then proceed to apply this principle in that twofold aspect, the first physical, the other mental, in which it naturally presents itself.

By what instrumentality, then, is our *animal* nature and organisation transmitted, and what physiological conditions must parents observe at this period, in order to confer on offspring the greatest degree of *physical* perfection possible, and what conditions must they avoid, lest they entail suffering, disease, and premature death?

Unless *effectually* prevented by *some means*, some *efficient* instrumentality *always acting* at this period, human beings might have been born, some without a heart, others without lungs, or muscles, or eyes, or brain, &c. How,

then, are such fatal results prevented? What law, necessarily acting at this period, endows all human beings constitutionally with every physical organ and function? This: Just as the stomach has its cerebral organ in Alimentiveness, and the reproductive system its organ Amativeness, so the heart, lungs, muscles, every physical organ, has each its cerebral organ located in the cerebellum, or *at the sides and all around*, Amativeness; so that on the principle that organs located together naturally *act together*,\* its exercise *always and necessarily* promotes that action of each individually, and of all collectively, so indispensable to their respective transmission; which harmonises perfectly with the fact that this parental function *constitutionally and necessarily* excites, and in a degree proportionate to its intensity, the *combined and simultaneous* action of every bone, muscle, organ, and physical function of parentage—probably no other function of life equally so. Behold, in the experience of all, how it accelerates the labouring pulsations of the heart, promotes perspiration, and augments respiration, till its subjects, paternal in particular, literally pant for breath sufficient to supply the increased demand. Nor, in this enormous taxation of all the vital organs is that of the entire muscular system omitted, or its tax light; but, besides being *absolutely indispensable*, the more powerful and perfect its action, the more perfect both this function and its product, because the more forcibly do those spiral muscles which bring the materials employed from their permanent station deposit them in the place of their final destination,† this force being all essential to the energy and stamina of offspring. Behold, in this imperfect explanation, the *instrumentality* employed by heaven's high Architect for effecting ends thus *indispensable*; and behold, moreover, the perfection of its operation in the fact that every human being is endowed with every animal organ and function!

From this demand, imperious and almost *compulsory*, for the vigorous and powerful action of the heart, lungs, stomach, muscles, and entire physical man—in short, for health—let parents learn the *practical* lesson taught them, namely, that the only way they can secure living and healthy children is for *them* to render *themselves* vigorous and healthy at this eventful period.‡ And that in proportion as they perfect the power and activity of their *own* physiology *as a whole*, as well as each individual organ, will they impart them thus perfected to their progeny; and, moreover, that their physical debility and disease, general and local, proportionally enfeeble the corresponding organs of their children. Is it not a *law of things* that the *product* of any given function is more or less perfect in proportion to the perfection of the *function itself*? Thus, is not breathing both beneficial and pleasurable in proportion as it is *more perfect*, and thus of every function? And shall not the health or disease, vigour or feebleness, &c., of *offspring* be according to the energy or tameness of that function which gives them being and capability? And is not *its* perfection and power in proportion to the vigour of the *health*, with which also its various degrees of pleasure fluctuate? Health is but a full supply and expenditure of that magnetism which is life; and hence the more vigorous the former the more magnetism it furnishes to this function, to materials, and to offspring, which takes on the condition of *quantity* as well as every other; so

\* See illustrations in the American *Phrenological Journal* for 1844, the series of articles entitled, "The Philosophy of Phrenology," &c.

† So exceedingly delicate are these seeds of life that, unless deposited in a place of perfect security, they must all be destroyed, and our race finally extinguished. And what place as secure as that chosen, where they can be reached only with the utmost difficulty, and then only at the peril of even life itself? But, to *PLANT* them thus deeply requires that powerfully existing apparatus furnished, which, that it may be out of the way when not wanted, retires except when its function is required. Behold the efficacy of this instance of Divine Causation! Nor less perfectly adapted to its office, is the place selected for their deposit, in its allowing both the required **FLXIBILITY** and **ROOM FOR GROWTH**.

‡ And therefore of course at *all* periods.

that children are proportionally vigorous when this function is vigorous, and feeble when it is feeble. Indeed, nature has even *proved* this already at our hands by omitting its product when this function is tame or imperfect, and by rendering the former the more certain as the latter is the more energetic—a fact cognisable by all who know the alphabet of this matter. How often does improved health obviate that barrenness occasioned by debility and disease, as those consulted in such cases know full well? And how often, too, when the debility is not so great as actually to *prevent* offspring, does it fail to charge them with vitality enough to secure them health and vigour of constitution, so that they barely live along a while “between hawk and buzzard,” too feeble to enjoy life, and then die, because so *slightly made*? Corresponding with this is the fact that the most healthy classes have the most numerous families; but that, as luxury enervates society, it diminishes the population by enfeebling parents, nature preferring *none* rather than those too weakly to live and be happy, and therefore rendering that union unfruitful which is too feeble to produce offspring sufficiently strong to enjoy life.\* A counter fact is that, *without exceptions*, talented men are from a healthy and therefore a long-lived stock. (See “Hereditary Descent,” p. 96.) Still, great men often have weakly children, because they generally work up all their strength and usually impair their health in those arduous labours which accompany their greatness, thus leaving themselves too little remaining vitality to produce vigorous offspring. As no function can go forward without being fed, or farther than it is fed, with vitality, and as this function combines in *simultaneous* activity, and that greater or less in proportion to its intensity, every organ and function of our nature, and thereby becomes proportional; exhausting, parents are required to bring to this work a *great amount of animal energy* in order to put forth and sustain, at least for the time being, the *powerful* effort required.

Especially should parents cultivate their *muscular* system preparatory to the perfection of this function and of their children; because, to impart strength and stamina to offspring, they must of necessity both *possess* a good muscular organisation, and also *bring it into vigorous requisition at this period*. For this reason, if for no other, let those of sedentary habits *cultivate* muscular energy preparatory to this time of need. Shall Roman orators practise gymnastic exercises merely to strengthen their muscles preparatory to the forum, and shall not *parents* assiduously cultivate muscular power preparatory to an end infinitely more important? Even the LIFE, as well as health and talents, of offspring depends thereon; because, for reasons given before, parents having weak muscles *cannot possibly produce* children sufficiently strong to grow up, or talented to be worth the raising, and *must* die childless! The sedentary habits of so many of our citizens are *alarming*, truly FRIGHTFUL even, in view of their destruction of offspring, and will break more parental hearts and prematurely bury more victims than all the wars and all the pestilence of all Christendom, if not in proportion than even *heathen infanticide*. For every “foreign missionary” sent to preach against infanticide we require to employ a score or so at home, to proclaim in the ears of all parents, present and prospective, the great truth embodied in this section, as a means of preventing that frightful infanticide *perpetrated perpetually in our very midst*, and perhaps actually or prospectively committed even by some of our readers!

\* The idea prevails that those predisposed to consumption, insanity, or any other transmissible disease, should not become parents, lest they entail them on offspring. Though the author has *indicated* this doctrine, yet mature reflection has satisfied him of its fallacy. To preach it, while physical education is thus miserably conducted, may do as a partial offset; but, strictly speaking, whenever there is sufficient physical stamina in parents to secure offspring, the latter will have strength enough to be capable of being raised and becoming happy, PROVIDED they are CARRIED and REARED in the best manner possible. Otherwise nature would war with herself; but now that very debility or disease which would render offspring too sickly to live and be happy KILLS both the DESIRE and POWER of BECOMING parents. Any child strong enough to be born alive is capable of enjoying life and of living to a good old age—*bence* nature would not let them BEGIN to live.

Inquire whether one or both the parents of those numerous children that die around us have not weak lungs, or a debilitated stomach, or a diseased liver, or feeble muscles, or else use them but little; or disordered nerves, disordered animality caused by excess, or some other debility or form of disease. The prevalence of summer complaints, colic, cholera infantum, and other affections of these vital organs of children, is truly *alarming*, sweeping them into their graves *by the million*. Shall other animals rear nearly all their young, and shall man, constitutionally by far the strongest of them all, lose half or more of his? Is *this* the order of nature? No, but their death-worm is born *in* and *with* them, and by *parental agency*. Take grave-yard statistics in August, and then say whether most of the deaths of children are not caused by indigestion, or feebleness of the bowels, liver, &c., or complaints growing out of them? Rather, take *family* statistics from broken-hearted parents! And, yet, in general those very parents who thus suffer more than words can tell were the first and main transgressors, because they *entailed* those dyspeptic, heart, and other kindred affections so common among American parents, upon their *own children*,\* and thereby almost as bad as *killed them by inches*; thus depriving them of all the joys of life, and themselves of their greatest earthly treasure. These fashionable ailings of adults, and these ravaging summer complaints of children, are the same in their nature, and differ only in *form*. Children *may*, indeed, die whose parents are healthy, but they almost *must* die whose parents are essentially ailing in one or more of their vital organs; because, since they inherit this organ debilitated or diseased, any additional cause of sickness attacks *this part first*, and when it gives way all go by the board together. When one parent is healthy and the other sickly, those children that take after the healthy one (and nature more often secures this desirable end) are more likely to live than those that resemble the sickly one; but why hazard the lives of *any* since, by preserving or establishing their *own* health, parents can just as well save *all*, especially if they will also properly *rear* them! Let then those who would avoid that terrible anxiety occasioned by watching over the sick-beds of their own dearly beloved children, as well as all that direful array of health-ruining and heart-breaking feelings consequent on their death, provide against them beforehand by PRESERVING *their OWN HEALTH*, and let the unmarried choose *healthy* companions or none.

The importance of health in parents as such must not be dismissed without *urging*, in a special manner, the *absolute* necessity of health of *brain*, and *nerves*, and *phrenological organs*. As their several states of health and vigour, or debility and disease, are, of course, transmitted in common with those of all the other organs, it remains to inquire, *What effects have nervous and cerebral diseases on the mind and morals of offspring? Most pernicious always.* They even cause DEPRAVITY. Does not dyspepsy produce depravity by rendering the feelings and disposition morbid and bloodshot? What is that increased irritability, fretfulness, ill-temper, &c., which usually accompanies this malady, but *increased depravity, caused* by this physical disorder? Children naturally obedient and sweet-tempered, when unwell generally become irritable, cross, disobedient, sullen, spiteful, &c. Is not *this* depravity? Then, pray, what is? And is it not *caused* by physical disorder? Because, restore their *health*, and you obviate these depraved manifestations. Let a citizen, naturally moral and good, become intemperate, and he, *therefore*, becomes *more sinful*, swears or blac guards, does not pay his debts, perhaps fights, and abuses his family, or even commits murder; none of which he would do if temperate. Does not intemperance *always* and *necessarily* augment depravity? But reform this wicked man in this single matter of drink, and he stops swearing, pays his debts, becomes kind and provident to his family, and an excellent citizen again; and all because temperance promotes moral purity. Indeed, the point

\* They are also quite as miserably nursed. Mothers understand almost NOTHING about how either to diet themselves while carrying or nursing, or their children afterwards; and hence, the importance of a separate work on this subject.

is too clear to require proof that *intemperance augments sinfulness. How?* By disordering and inflaming the *physiology*, and thereby the *brain*, especially its *base*, or the organs of the propensities, because of the intimate reciprocity of those relations existing between the body and the base of the brain which serves it.\* This cerebral disease, of course, deranges those mental functions produced by the diseased brain, because every function becomes diseased, that is, abnormal, or in other words unnatural when its organ is diseased; and this consequent departure from nature is, of course, a departure from her laws which, occurring in the organs of the mind, produces and even constitutes depravity; and all occasioned by that diseased or inflamed state of the stomach and body, which has imparted its inflammation to the animal propensities, and thus roused them to that undue and abnormal action which occasions and constitutes depravity. In short, the inflammation or disease of the bodily organs causes sickness; that of the brain sinfulness and depravity, except that inflammation in the *intellectual* organs warps judgment, distorts conclusions, leads men to adopt error for truth; and thus depraves opinion, conduct—everything.

So bold and startling a doctrine as that physical disease occasions moral depravity requires demonstration, and *has* it in the fact that those nervous diseases consequent on cerebral disorder always and necessarily render their afflicted subjects most miserable by making them gloomy, fretful, fault-finding, and even revengeful, and, therefore, deceitful and dishonest, by way of retaliating wrongs merely imaginary. Let such live in paradise even, and they would be wretched still, wretched always, as Cowper said he was, and would be even if in heaven, with a body as his then was. In the absence of real cause of grief they *make* cause, even out of their blessings; that which, if healthy, would render them happy, now only augments their sufferings; nor could anything whatever make them happy, because their nervousness, *ipso facto*, turns all they touch, not into gold, but into occasions of suffering; but cure them, and what before only gave them pain now becomes pleasurable, simply because their brain is restored to its healthy and normal, and therefore pleasurable, action. All who have experienced nervous affections know full well that they cause pain, and that the most intense possible or bearable; nor will any other kind of anguish equally eke out life by wretched inches, or hasten its termination.

Now, what but violated law causes this pain, or any pain? Does pain ever occur except in consequence of violated law? And is it not its necessary consequent, and its universal concomitant? That such violated law alone causes such pain is fundamental truth—one of nature's *axioms* even. Now, since these cerebral and nervous diseases cause mental anguish, and since this anguish is but the sign and consequence of violated law, and since this violated law is sin, therefore cerebral and nervous diseases cause and constitute sinfulness. Nor is the demonstration of any mathematical truth more conclusive; it is even immutable truth itself.†

Now, since children take on the existing physiology and mentality of parents, and since almost all forms of physical disease, whether of the heart, stomach, lungs, or any other organ or portion of the body, disorder the nerves of the diseased part, more or less, according to their aggravation, and thereby proportionally disease the nervous system as a whole, and, of course, the brain, thus rendering parents more and more unhappy and depraved as they are more diseased, their children will, of course, inherit constitutionally whatever of

\* In Fowler on "Temperance," this principle is fully demonstrated, and also run out in its detailed application to the production of various species of wickedness. The law there shown to govern this matter will be found full of interest in itself, and rich in its applications. It may be had for 3d.

† Not that ALL depravity has this origin, but much. Nor that such disease always, or even often, confines to the sick bed. The DEGREE of either depravity or sickness is not the point, but the PRINCIPLE involved.

Besides, sickness in another way induces thought, reflection, activity &c. conscientiousness, reverence, &c.—ED.

these painful or depraved conditions appertain to parents at this period. This painful or depraved condition, therefore, thus born in and with them—"DYED IN THE WOOL"—becomes most difficult of cure, and liable to increase; and, hence, predisposes to this abnormal, painful, depraved condition of their mental faculties for life! Beware, therefore, oh! parents, how you entail either physical or cerebral disorder; and, therefore, pain and depravity, upon your own children, and that both constitutionally and FOR LIFE unless cured, which is much less likely than increase! How infinitely more virtuous and happy would they be, and you in them, if you should be healthy in body and happy in mind, so as to beget in them a constitutionally healthy and vigorous physiology, along with a serene and happy frame of mind! Words are utterly powerless in answer, and so is everything but a LIFE-TIME of consequent happiness or misery! Learn and obey, then, the laws of life and health, that you may both reap the rich reward yourself, and also shower down upon your children after you many and most exalted blessings.

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#### SECTION IV.

##### LOVE AND MARRIAGE, AND THEIR ADORNING AND PERFECTING INFLUENCE.

But however indispensable the transmission of the whole *physical* man, the transmission of the entire *intellectual* and *moral* being as infinitely exceeds it in importance as the happiness experienced in mental perfection and power exceeds merely physical gratification. So does also the Divine Causation employed for effecting it. Do you then eagerly inquire: By what instrumentality is *mind* transmitted, and *soul* propagated? Would to God I could transfer to your minds this answer as it exists in my own; but here again words utterly fail. Oh! that all might experience it in their own souls!

That parental function which imparts being and character to offspring, besides exciting at this period, in order to transmit, every *physical* organ and function, also awakens, by virtue of its own *inherent nature*, every *intellectual* and *moral* function and faculty, preparatory to *their* transmission, and instrumental thereto. The *machinery* employed for effecting this greatest of God's terrestrial works is LOVE—that *mental* emotion which constitutionally precedes, accompanies, and induces parentage, and which, *in and by its very nature*, quickens all the feelings, purifies and elevates all the moral affections, and augments all the intellectual powers, as the means of *their* transmission. Bear in mind here that love and parentage, when they have their perfect work, constitutionally *go together*, accompanying each other as uniformly as warmth and summer; nor is it possible for either to exist in anything like perfection without the concomitance and co-operation of the other. Indeed, the parental function is but the very *perfection and climax* of love, the legitimate and only natural *terminus* of all its various stages and appurtenances, parentage being but the *ultimate* of what love is the element and various incipient stages, and the two being only different *degrees* of the same elementary function of Amateness. Would that they were consociated in the *minds and conduct* of mankind as they are in the ordinances of nature!

Hence, in order to ascertain the constitutional character of parentage, as well as its most favourable conditions as applicable to the *intellectual* endowment and the *moral* perfection of offspring, we must first ascertain the constitutional nature and character of love, to which, therefore, we now proceed.

The fundamental basis of love is laid in the adaptation, especially mental, of the sexes to each other, and their mutual capability of bestowing and receiving happiness. That is, man is capacitated and calculated to take pleasure in woman—in her physiological constitution, beauty of form, modes of action, feelings, and whatever characterises and goes to constitute the feminine; and woman, also, is rendered happy by the masculine in person, intellect, and soul. Now it is a law of mind, that we love whatever renders us happy, and in proportion thereto. (See demonstration of this law in Fowler on "Matrimony," p. 30.) Since, therefore, the feminine is adapted to promote

the highest happiness of the masculine, it enamours the latter, and the more so the more it contributes to its enjoyment, and *vice versa* as regards the masculine. Hence in proportion to the amount of pleasure, and that of the most exalted kind, which each sex is calculated to pour into the soul of the other, should they *love* each other, and this capability of conferring and receiving pleasure being mutual, their love consequent thereon should also be mutual : and thus it is.

On the principle that the "tree is known by its fruits" we shall be able to derive important instruction touching the nature and constitutionality of love, by first observing its effects, and to this we devote the main body of this section, with the view of learning therefrom its natural character and function, in order to the more specific application in the next. What, then, are its *effects* on its possessor? What qualities, virtues, beauties, charms, &c., does it develop? What collateral ends subserve?

Though the world is *full* of books attempting to pourtray this passion—though tales, novels, fictitious writings, love-stories, &c., by far the most numerous class of books, are made up, in warp and woof, of love : though even the Bible itself is laden with descriptions, injunctions and directions, concerning it ; and though no events of life cast a deeper dye of destiny than love and marriage—yet how imperfectly understood is this whole subject ! How much error prevails ! And how much sin and suffering are consequent thereon !

Perfectly aware that neither his organs nor talents adapt him to encircle this passion with that poesy and romance generally thrown around it,\* the Author is content to adduce its plain, every-day, matter-of-fact *effects* or *character*, in illustration of its functions, and explanation of its laws.

Its earliest promptings attach boys to their mothers most, and girls to their fathers. It is the same faculty which attaches the son to his mother, and the husband to his wife. Hence that son who is affectionate to his mother is generally (and always *capable* of being) devoted to his wife. Mothers, moreover, reciprocate this attachment with their sons ; nor should they fail to convert to the best possible account that tremendous influence over their yet plastic but rapidly forming characters imparted by this beautiful arrangement of our nature. Constituted to prize the masculine above *all* price, they are of course thereby fitted to develop by culture that in their sons which they love in their husbands. Fathers, too, reciprocate this affection with their daughters, and are thus calculated to develop and mature in them all that is feminine, and thus prepare them to become the pride and prize of prospective husbands.

Otherwise than in this manner love rarely manifests itself till from the fifteenth to the twentieth year, varying somewhat according to the backwardness or precocity of its subject, except when brought forward prematurely by those artificial stimulants mentioned in "Amativeness ;" and then only in its faintest shades, barely tinging the cheek with its modest attractions, as the first rays of morning faintly yet effectually light up the face of approaching day. At first, it just softens and slightly subdues the manners and expressions of the sexes as regards each other. Gradually, it creates a modest deference, accompanied by a slight attraction of each towards the other ; which nature, however, restrains by the always accompanying feeling of native modesty inherent in all. And woe to that youth whose modesty is obliterated, or even essentially seared ; nor should it ever be trifled with, because it imposes a much-needed and almost insuperable barrier to undue familiarity and premature union.

Its next perceptible influence augments the *charms* and develops the *beauties* of the human character, by rendering woman more graceful in every look, action, and expression, and making man more polished, bland, elevated, and noble, substituting refinement for grossness, propriety for vulgarity, manliness for boyishness, mildness for harshness, and blandness for roughness ;

\* His Amativeness being only moderate, and his Ideality none the largest.

besides superinducing in a woman the *sedate* instead of the trifling, and the womanly in place of the girlish. Still, love exchanges characteristics in woman less than it *augments* those constitutional perfections previously existing, by throwing a halo of loveliness around her entire being.

It was once our pleasing lot frequently to see and converse with a betrothed bride, both before and after her lover arrived in town preparatory to their contemplated marriage, as well as at and after their happy union. Though accomplished and charming before, she was much *more* so afterwards; not only walking with a lighter step and moving with new grace and elegance out giving additional fascination and perfection to all she said and did; and thus far every day augments those heavenly charms. Oh! if man as a sex only knew, as did that husband, how to cultivate and develop the natural attachments of the female character, by completely enlisting and properly directing the affections of woman, no words could portray the extent to which her improvement might be carried, and his own and her happiness thereby promoted! But, alas! he *neither* duly appreciates her loveliness nor properly cultivates her virtues.

The beautifying effects of love on the *intonations* furnish another illustration of its adorning influences, the charms of which, however, can be *heard and felt* better than transmitted to paper. These tones in men, before they are softened and subdued by this tender passion, are seldom smooth or flexible, but generally grate harshly upon the ear, being essentially defective in both compass and expression. But the tones of *love* are always soft, tender, subdued, and insinuating, and in proportion to its intensity.

An illustrative anecdote: To a fellow-passeger whose intonation evinced an unusual amount of this tenderness, we said, "Will you allow a plain, perhaps an impertinent, question?" "Most certainly," was the courteous answer. "Have you not recently been disappointed in love?" With commingled confusion and amazement, he turned and inquired, "Pray, sir, how did you know it?" "Then you confess the *fact*?" He then admitted that he had just bid adieu to a young lady at the south whom he loved devotedly, and who reciprocated his affection, but his marriage with whom was attended with difficulties insurmountable. We then analysed his intonation, pointing out to him its subdued and almost plaintive notes of tenderness, accompanied with shadings of sadness, discouragement, and disappointment. From these tell-tale intonations and other similar indices can the precise state of the affections of almost any individual be correctly deciphered. When the love has simply been excited, but not yet either fully centred or disappointed, they become proportionally the more rich, melodious, sweet, tender, and touching; yet not so in perfection. When called out, but partially interrupted, these vocal charms will be perceptible, yet proportionally merged in tones of plaintive sadness, and become more and more sharp, cutting, shrill, husky, or withered, &c., according to the extent of the disappointment. The tones in which gushing affection chooses to array and express itself are always low, soft, flexible, insinuating, and tender; uttered generally almost or quite in a whisper, and falling sweetly upon the ear like the notes of the Æolian harp, as those will remember with delight who have ever loved or been loved. The intonations of the same speakers and individuals, when addressing their own sex exclusively, will be found less bland and persuasive than when addressing the opposite sex or a promiscuous audience, because the mere presence of woman, by acting on this faculty, imparts that insinuating intonation which, besides making its appropriate impression on her to whom it was especially addressed, finds its way directly to the soul of man, and thereby gives that command over mind and conduct which nothing else could impart. Nor is any one fully qualified for public speaking till this tender passion has polished, sweetened, attuned, and modulated the intonation, and also added that blandness of manner, delicacy of sentiment, and elevation of idea which captivate and sway the human mind. Hence, public men, moralists in particular, should seek the society of refined and accomplished women, if they would perfect themselves as teachers and guides of the souls of their fellows.



But it is the intonation of *woman* that love renders *most* delightful and bewitching. Though that of the girl is sweet, yet it is still light and immature, and its modulations comparatively few, because neither varied by emotion nor mellowed by pathos; nor is it till love opens up every fountain of her nature, and brings forth from its rich storehouse and spreads upon the table of life all the exhaustless treasures of woman's soul, that the female voice becomes adorned with its last touches of perfection, all its modulations being delightfully diversified, and exquisitely rich, soft, tender, and almost angelic! Words are tame, paper is comparative blank, in describing either their power or perfection! Mark the intonations of the truly splendid wife, whose affections have been called forth and delightfully reciprocated, and which remain at rest in the bosom of her fond husband, every sight of whom awakens a new thrill of holy pleasure in her soul, which adds to her already attuned voice another note of delicious sweetness.

But how different *her* voice whose love has been blasted! Her intonations irritable, or dried up, or parched, by disappointment; or rendered husky, or tremulous, or short, by excessive, or conflicting, or unhappy feelings. Analyse *her* tones who lives unhappily with her man. Need we lift the veil? Reader, lift it for yourself. Take notes. Open your ears to those musical intonations of love, and then to those withered, grating, repulsive accents of reversed affection and unfortunate wedlock! By the application of this touchstone of the affections, their existing conditions in almost all can be correctly inferred; and though it will disclose discord between many husbands and wives who have thus far contrived to hide it from the world, yet both the principle involved and its various applications are too valuable to be lost.

Since, then, the intonations of woman are sweetened and perfected in the ratio of her domestic happiness, let those who delight to listen to the sweet warblings of gushing feminine emotion—let man, as a sex, do all that *can* be done to promote her domestic felicity. If man would but do *his* part, woman would laden every breeze with notes sweeter and richer than the morning warbles of feathered songsters, till they diffused throughout his whole soul a perpetual thrill of holy pleasure. Oh! how infinitely thankful should he be for the bestowment of the purifying, elevating, perfecting, and indescribably enchanting voice of woman! May it be fully appreciated by him and improved by her; for, as yet, it is but the voice of infancy compared with what it might be, and with what it will one day become!

The inference is obvious, and coincides with the fact that woman must love before she can sing. Not before she can learn the gamut, or thrum the piano, or rehearse tunes by note or rote, but before she can sing *with soul*, or *reach* the soul.\* We need not enlarge. The knowing will understand.

If asked *how* these delightful results are effected, an illustration must answer. As some existing connection between the mental faculties and the face impresses the ever-changing operations of the mind upon the face, so a connection probably similar between the mind and the voice reports all our states of feeling and shades of intellect, those of love of course included, through the instrumentality of our intonations.†

In like manner, love beautifies the *expression of the countenance*. Beauty consists far more in expression than in the form or arrangement of the features—in that emanation of *soul* seen in the sparkling eye, the glowing cheek, and entire aspect beaming with emotion, than in configuration merely. Contrast any countenance when listlessness, lassitude, or vacuity has banished expression, with that same countenance when animated in conversation, lighted up by strong emotion, or beautified and adorned by the harmonious blending and intense action of the whole mind. To confine

\* The fact is that birds of song SING their love, and sing more sweetly when they woo than at any other season.

† The principle and *quo modo* by which both these phenomena are produced will be found fully explained in the *American Phrenological Journal* for 1846, and some most beautiful phrenological indices derived therefrom.

attention to a single point—that of the *colour*. Though beauty of *form* and symmetry of features essentially *aid* beauty, yet this species is unspeakably lower in kind than that of expression, of which colour forms an important part. Where no feeling is, colour forsakes the cheek, as in fainting, and the leaden hues of death brood darkly over the soulless face. But call out the intellect, and arouse all the faculties of the same man, and especially woman, to the highest pitch of pleasurable and commingling emotion, and that countenance, before vacant, and therefore uninteresting, now beams with that almost superhuman *expression* which mainly constitutes beauty, and adorns the “human face divine” with hues and shades, before unseen, but now beyond the power of language to depict. Even *ordinary* features, lit up by *expression* become attractive, if not beautiful, whereas we turn disappointed or dissatisfied from features, however finely moulded, if destitute of expression, or distorted by the expression of hateful passions. By as much as we instinctively contemplate *intellect* and *soul*, the highest department of creation, with more interest and pleasure than we do inanimate shape merely, is the expression of the former more truly beautiful than outline merely. And since love, as already shown, almost incalculably augments and intensifies that action of the various faculties which alone give expression, and therefore mainly constitutes beauty, it of course proportionally *increases* beauty, so as often to render those features deeply interesting which otherwise would be insipid, and irradiates those naturally beautiful with almost angelic charms.

All this in *addition* to the fascinations of *love itself*—to its languishing, insinuating, bewitching, and almost voluptuous expression of the eye, its exquisite touching play of the lips, its modest blush, and all the other charms and beauties imparted by this soul-melting passion. But in this case also, as in that of the voice, words are utterly powerless and empty. Yet there is a book which expresses, or *can* express, *all*. Though but poorly printed, and in its first edition, it is almost infinitely more significant than generally supposed. Its exhaustless language, even the alphabet of which we scarcely yet understand, future ages will read. Study that book—the human countenance—and then declare, if words thou hast, how almost *infinitely* love beautifies and adorns its delightful pages !

Other similar illustrations of the adorning influences of love might be drawn from the increased zest and expressiveness it imparts to the merry laugh ; from its natural language, which renders the person more erect, and reels the head affectionately backward and a little to one side, thus carrying the whole person forward proudly and freely ; from its augmenting the hilarity, elasticity, animation, life, and buoyancy of the entire being, physical and mental, and increasing every power, every pleasure of life ; but these must suffice. *How* all this is effected remains to be shown, but the *effects themselves* must have been experienced more or less by most readers, and observed by all.

Not that love augments the charms of all *alike*, because all are not equally endowed with those *materials* by means of which it operates. As all beauty consists in the manifestation of human nature, that is, in the exhibition of our several powers and faculties, those whose faculties are feeble have but little human nature *in* them, so that love cannot augment that nature, that is, increase their charms, as much as it does theirs whose human nature, or *constitutional* charms, are more abundant. Hence it beautifies, adorns, and perfects those most who are endowed originally with the greatest amount of *human nature* or *soul*.

The *rationale* of this beautifying influence of love, and, indeed, of this whole matter, is, that in and by rendering the sexes attractive in the eyes of each other, it may induce each to *do and to become* what will *please* the other, in order thereby to secure that reciprocity of affection which mutual endearments may ultimately develop into, and thus rivet, that *love* which naturally superinduces marriage, and eventuates in offspring—that great *finale* of all man's domestic feelings and relations.

But, though love and its accompanying charms eventuate in marriage, yet they do not *terminate* with it. As its ultimate object is the propagation of the race, it should last as long as we are capable either of being parents, or exerting an influence on the character of our offspring: in other words, it should last as long as life. Its waning with the honeymoon would be like autumn supervening directly upon spring, before the happy pair had tasted the luxuries of summer, or feasted upon the golden fruits of autumn. Courtship is but the mere alphabet of love, and the wedding season its first lesson. When properly placed, its natural tendency is to *increase* with years, nor ever to diminish till age impairs both it and all our other faculties together. The blushing bride, though all dissolved in the melting tenderness of gushing affection, does not, *cannot* love equally with the middle-aged wife, or even the declining matron. She has not yet tasted the virtues or tasted the perfections of her *beau idéal*. It is only after years of the continual interchange of reciprocated kindness and sentiments between husbands and wives—after they have ascended together the hills of prosperity, and perhaps travelled the vale of adversity, till they have thoroughly tried each other's souls, and called forth their mutual spirit of self-sacrifice; perhaps not till they have watched over each other when prostrate by sickness, and reciprocated a constant succession of endearing offices of kindness and tokens of love—above all, not till they have *become parents* together—that they can be completely enamoured of each other; because it is her maternal relations which most of all endear the wife to her husband, besides making her love him inexpressibly the more for being the *father of her idolised children*. Perfect love also requires that perfect *confidence* which nothing can establish but those fullest and most diversified tests which married life alone can furnish. Mistaken they who suppose that years naturally weaken love. *Animal* love they may weaken; but that blending of soul, that love of *moral excellence* which constitutes love's crowning perfection, and even quintessence, grows slowly, matures gradually, and reaches its zenith only after the fierce fires of youthful passion have given place to the live coals of mature or declining age. Matrimony is the very garden and paradise of love, and therefore every way calculated *constitutionally* to strengthen and perfect it, and thereby augment its every charm and sweet. With this the experience of few may coincide, because so few husbands and wives cordially and completely love each other; but, chosen and blessed of God this happy few! Yours is the sweet cup that never sates; yours the dainty luxury that never cloy, but only increases your relish while it feasts your souls perpetually on its delicious bounties! Ye who have lived affectionately in wedlock's sacred bonds for a score or so of years can bear testimony to this. The fact that the experience of so few harmonises with this blessed reality, only shows how few truly love! Ye, then, who have your die yet to cast, cast it in view of this principle.

To perceive *how* happy wedlock continues to improve the agreeableness of man is easy; because by drinking in continually those softening, refining, elevating, and ennobling influences exerted upon him perpetually by a good wife, he becomes more polished, and of a better disposition day by day, and year after year, till all his powers are bedimmed by age or eclipsed by death. Much more is this true of woman. Happy wedlock constitutionally develops both that physical and mental sexuality which imparts these finishing touches of perfection to her grace and elegance of manner, her sweet smiles, fascinating looks, exquisite intonations, beauty of expression, and which, in short, heightens every charm and perfection of the female character. By imbuing her whole soul with love for the masculine in her husband, because it so indescribably exalts her happiness, it makes her *prize his sex* in proportion as she loves him; and this arrays her in all her charms as a means of rendering herself agreeable. Nor is this in the least improper. It is the nature and highest happiness, as well as the main constituent element of the wife and mother, both of which it perfects. Properly to know man in the person of her husband *develops the feminine*, and thereby augments every female charm and perfection, because it calls out

and fulfils her whole nature. But the maiden has exercised only a part of her nature, nor that the most important. She has not yet fulfilled its great duty and destiny, and hence she is below the wife and matron. Not that she should be underrated, but, bashful and blushing, she labours under perpetual restraint, which marriage removes. Sweet, lovely, is the blushing maid and the blooming bride; sweeter still, more lovely far, the full-blown matron. Let others sip the nectar of female loveliness as it gushes from the handsome features, lovely looks, graceful motions, fascinating smiles, and enchanting conversation of maiden purity and undeveloped love; but let us commune with *married* woman. Give us the well-developed *wife* and *mother*, whether for elegance of manners, exquisite tenderness and flexibility of voice, ease and propriety commingled with freedom of conversation, and those practical lessons of experimental wisdom which flow perpetually from her lips. We admire the maiden, but we almost *worship* the *matron*, and gather more information, as well as derive more pleasure, from an hour's conversation with the wife of forty than from weeks of chit-chat with the simpering *belle* of eighteen. The latter is only just *beginning* to put on her fair, but yet immature, forms and rich colours, while the former is fully ripened, her form filled out and perfected, her colours enriched and variegated, and their flavour most delicious—every element being completely consummated.

But the opinion prevails almost universally that married life necessarily *diminishes* female beauty. The fact is admitted. Its *necessity* is questionable. One of its *efficient* causes consists in the *loss of health* generally consequent on marriage. Both the exercise and expression of love, and all its charms,\* expend that *vitality* which health alone imparts, and thereby enfeebles love itself, and that power by which alone it can manifest itself and its charms, besides furrowing and fading the cheek of beauty, emaciating the form, substituting the frowns and scowls consequent on pain for the brisk and happy expression of health—bedimming the otherwise sparkling eye, and weakening, and perverting, and depraving all the faculties. Hence the female invalid ceases to throw that interest, animation, expressiveness, *soul*, into her looks, action, conversation, &c., which health would enable her to put forth and impart, while disease, by rendering her looks more or less haggard and ghastly, and her intonations sorrowful or hackled, makes that repulsive which health would render charming. How much an animated walk, or ride, or dance, or frolic, &c., promotes circulation, heightens colour and expression, and augments the whole collection of woman's charms, simply by rallying those *animal energies* which manifest both her love and her loveliness; and what this does for beauty *temporarily* health does permanently.

That the matrimonial, and especially *maternal*, relations require and consume a great amount of those vital energies is a *fact* attested by the experience and observation of all married women, maternal duties being so *particularly* exhausting that few retain strength sufficient to resupply the immense drain, and fewer still know how, at this period, to economise what little they have, so as to save their constitutions from utter ruin. Hence women die by thousands after having borne two or three children, and most of those that survive become feeble or invalid, and therefore lose their charms. Still there is nothing in the relations of the wife or mother *necessarily* injurious to either health or beauty, provided woman has a good constitution, and then *obeys the laws of life and health*. On the contrary, all these relations are directly calculated to promote health and *enhance* beauty, for never is woman more attractive in the eyes of her husband and of man than when fulfilling the maternal relations. But the cares, and too often the *drudgery*, of the family, her almost perpetual confinement within doors, her seeing so little company, and, above all, the miserable dietetic and other *habits*—the worst possible for health—of most women, together with other similar causes too numerous to mention, and the one specified in "AMATIVENESS," break down the constitutions of ninety-nine wives and mothers in every hundred, efface their beauty, and

hasten them and their charms into premature graves! Ye wives and daughters of loveliness, therefore, who would preserve or regain your charms, *preserve or regain your health*, so that coming years shall only enhance your beauty, and feed the fires of love with new fuel continually, so that its flames shall grow brighter and warmer as life's happy months fly swiftly on, till maturer years shall crown you with a husband's whole-souled love and a mother's glory, or, fitted for immortality, green old age shall fold you up, leaf by leaf, preparatory to that angelic bloom which fadeth not for ever! And ye husbands who will, *can* preserve, in still increasing freshness, those very charms which first swelled your heaving bosom with emotions of tenderness and love, till you have no farther occasion for them or her who bore them.\*

The *diminution of affection* too often consequent on marriage still more effectually blights both the charms and the soul of woman. In many cases the wife is less beloved than was the *sweetheart*; and nothing will fade the cheek of beauty, harrow the once lovely face with wrinkles, relax the elastic motion, cause the sprightly step to falter, and becloud or obscure all traces of female beauty so rapidly or effectually as the loss, or even *diminution*, of a husband's affections. Escape her practised eye, her quick-catching ear they never can, but will waken all her fears, blast her hopes, blight all her pleasures, necessarily and always. Nor need we wonder. Her *all* is at stake—embarked *for life*. *That* lost, *all* is lost beyond recovery, and she *compelled* to go down to her grave mourning! Nor is it possible to comfort her. Say, ye blasted flowers of former fragrance and loveliness—care-worn, dispirited, heedless even of *life*, and preferring death to a life so completely miserable—what causer-worm is that which preys perpetually upon your inmost souls? Answer ye not? Nor need ye renew your griefs by recounting their cause, for they are written in doleful characters upon your furrowed brow, and inscribed in plaintive and forlorn notes upon your every intonation! Ye have married, but not congenially! The cooing dove has lost its wanted mate! Happy if *only* lost! Strayed to another, perhaps! Alienated! Your souls transfixed with many sorrows! Your life so changed from expectation's happy dreams! And all this but the mere *beginning* of sorrow! Compelled.....; but enough. No wonder that your beauty fades, that you drag out a miserable existence while you live, and die before your time!

But, as we shall soon reach, from a more advantageous position, the effects, mental and physical, of unrequited love on both parents and children, we dismiss this subject, for the present, for one more congenial.

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## SECTION V.

### SPIRITUAL LOVE AS COMPARED WITH ANIMAL: ITS OFFICE IN TRANSMITTING THE MENTALITY.

In what, then, consists that love which induces marriage, and secures offspring? What constitutes its component elements? What are the conditions requisite, that parents may both enjoy its sweets themselves, and thereby perfect their prospective children? Especially, by what *instrumentality* is *mind* transmitted and *soul* propagated?

The answer to this great question embodies the one main subject-matter and gist of our treatise; namely, those *states of mind in parents most productive of moral purity and mental excellence in offspring*. Some means are employed in transmitting the *mentality* of parentage to progeny analagous to those already shown as propagating the physiology. Those means, that

\* We must again refer you to "AMATIVENESS" for an explanation of one of the principal injuries to female health and loveliness, namely, the want of temperance in matrimonial pleasures.

instrumentality, is LOVE. Fully to expound it, we must first explain the *nature and fundamental law* of that love already shown constitutionally to accompany and induce parentage.

*Physical* gender alone does not *exclusively* constitute the *whole* of either the masculine or the feminine. Though the sexes have each the same number of physiological and mental organs and functions, yet their *temperament and texture*, or *tone* of organisation, differ essentially, and this causes a *corresponding* difference in the *mode of action* of their faculties, and, consequently, of all they *say, do, and are*. Thus the male is the broadest, deepest, and strongest in the chest; the female the most fully developed at the hips, from which she tapers every way, because her *maternal* constitution and relations require a much greater *concentration* of energy *here* than anywhere else. This organic difference causes a difference clearly preceptible in their movement, walk, gait, &c.; those of men naturally exhibit strength; of woman, taste and elegance; a difference in their handwriting always distinguishable, and by similar indices; in their *forms of head* and corresponding phrenological developments, always distinguishable from each other; and, consequently, in their entire social, intellectual, and moral constitution. Moreover, the tone and cast of all their feelings and mental operation, their respective styles of conversation, composition, &c., differ so perceptibly and universally, that experienced critics, by reading a few sentences in an unknown work, can determine by which sex it was penned. Similar remarks apply to the female sentiment as compared with that of man—to her jokes, retorts, modes of reasoning, her religious, and all her other feelings and affections, and, indeed, to all her other mental characteristics as compared with those of man. In short, the masculine and feminine are not contradistinguished from each other in physical gender more than in that *mental and spiritual* sexuality (we use these appellatives for want of better) here intended, and which allows and creates that indescribable communion and commingling of the *spiritual* in man with the *spiritual in woman*, which make “of them twain one flesh,” constitutes both love and marriage, and paves the way for parentage.

The *quo modo* or *how* of this assimilation, magnetism may yet fully explain, and even now furnishes an illustration doubtless fundamentally correct. Suppose, then, as shown before to be probable, that this mental entity, or the being and agent of mind, consists in magnetic fluids, and that those mental fluids of the sexes are in accordance with their respective characters. Now there is a law of mind by which kindred spirits *blend and commingle*, each as it were holding the other in solution, as water and sugar do, in which all the particles of each commingle perfectly with all those of the other. Now is not that intercommunion of kindred spirits which constitutes love analogous to this commingling of electric and other fluids? Or thus—the man in his every word, look, and action gives off a portion of his masculine fluid or mentality, which his loving consort imbibes and incorporates with her own, and *vice versâ* as to woman; and hence that lost, lonely, desolate, forsaken feeling, as if torn from their own selves, consequent on their separation, because both have in fact imparted of their own mentality or selves, and taken on a portion of that of the other, and hence both their loneliness of soul and their desire to be with each other.

Moreover, these magnetic natures of the sexes have a strong adaptation, *attraction*, or *affinity* for that of the opposite, like the opposite poles of the magnet for each other, similar to what we all have for food, air, &c., which induces each to seek the company of the other, because happy therein. And this masculine mentality, or *intellect and soul*, has the same affinity for that of the feminine, and *vice versâ*, which the sexes have for each other physically—the same inclination, attractiveness, and drawing towards; the same assimilation and connection as well as analogous pleasure therein. Nor is the latter better adapted to hold that intercourse productive of offspring than the former to hold that spirituo-sexual communion which constitutes love, and which is quite as essential to the high *mental* endowment of children as is the other to their physical generation. Nor is this physical sexuality of each

more pleasing or charming in the eyes of the other, or better calculated to excite emotions of love, than this their *mental* sexuality. Indeed, *true* love in its most *exalted* exercise appertains *mainly* to the *mind*, and *consists* in this cohabitation of *soul with soul*, which precedes, accompanies, and induces generation and constitutionally governs it. It is this *spiritual* affinity of the *mental* masculine and feminine for each other, and intercourse therewith, which constitutes the very *embodiment and heart's core* of true love, and encircles this heavenly emotion with such a halo of holy purity and sacred sweetness. *This* it is which makes a man even forsake "father and mother and cleave unto his wife," and which binds the fond and willing wife to her adored husband in those divine bands which absolutely *nothing* can sever. This perfect oneness of feeling and confluence of soul; this complete *solution* of every feeling and faculty of each with every feeling and faculty of the other, and longing for its attendant *spiritual* communion, alone constitutes true marriage—that divine ordinance which entitles those who thus love each other to the rights of wedlock.\* Nor should that intercourse which multiplies our race be more sexual than *mental and spiritual*. For the latter, nature has provided even more amply than for the former, both in having rendered it more promotive of connubial enjoyment in parents, and indispensable to the intellectuality and morality of offspring. Indeed, the spiritual love alone sanctifies the sensual—alone makes it truly human. All else is vulgar, debasing, and comparatively insipid, because consisting, as far as *mind* is concerned, in the sensual indulgence of a single animal propensity, and therefore yielding comparatively but little pleasure, because of the small amount of brain called into action.

We shall see more fully how effectually love promotes moral purity, in the light of that great *law of mind*, the sanctifying influence on propensity, of the intellectual and moral faculties. Thus anger without reason or object, that is, unguided by intellect and unsanctified by moral sentiment, becomes mere brute force and hot-headed passion, which is both sinful in character and painful to its possessor and all affected thereby; but that same amount of anger, directed by intellect upon something *deserving* indignation, and also converted by the higher sentiments into *moral* courage, resistance to *wrong*, defence of *rights*, opposition to *evil*, &c., thereby becomes virtuous in character, and pleasurable to its possessor and all concerned, simply because sanctified and directed by the *higher faculties*, whose influence is truly *wonderful* in purifying and elevating propensity, and rendering that virtuous and pleasurable which would otherwise be vicious and painful; but having fully expounded this law in "Education and Self-Improvement," and also "Religion," this single illustration of the sanctifying influence of the higher faculties over the lower must suffice here.

To apply this law to love: Let *amativeness* combine in action with the higher faculties; that is, let man love woman for her goodness, intelligence, fine feelings, and virtues—for her *intellectual and moral worth*—instead of *for* her personal beauty merely; let him love her as one with whom to hold this high and holy communion of kindred *spirits*, rather than as a mere sexual being calculated to gratify his sensual propensity—and this exalted sentiment will exert a most purifying and elevating influence over his whole character, conduct, and being; because it fulfils that great law of virtue and goodness just illustrated, by subjugating his lower propensities to his higher faculties, which elevate as much as unmixed sensual love degrades by subjugating all that is high and godlike in man to low-lived lust! The constitutional influence and effect of this love, therefore, are to *sanctify and subjugate propensity*, and *develop the moral and intellectual*. Say, ye who have experienced this holy emotion, has it not exerted this influence over your entire feelings and conduct—purifying, sanctifying, elevating, adorning, perfecting all? Did it not inspire within you an abhorrence of all sin, and a longing after moral excellence in all its variety and perfection? Say, ye who *now* love, be

\* See this point fully proved in Fowler on "Matrimony."

it husband or wife, or some unwedded kindred spirit, does this love *corrupt* your souls by inflaming sensual desires? Does it not tend to *chasten and subdue* them, and to *spiritualise* your whole nature? These, its *effects*, disclose its character.

But since love dwells in its *greatest* purity, perfection, and power in the *soul of woman*, pervading her whole nature, constituting its warp and woof and *staple commodity*, the tone and character of *her* love, and whether it be spiritual or animal, furnishes a touchstone and sample of true love incomparably superior to that furnished by man. Being the very *personification* of love itself, in addition to being endowed with all the sexual impulse requisite for parentage, she is our umpire. On *her* verdict rests the issue.

What then, fair reader, constitutes the leading feature or element of your love? Consists it mainly in a desire for *sensual* pleasures? Or almost exclusively in luxuriating in this *spiritual* repast under discussion? Though your beloved must belong to the opposite sex, yet does your love *centre* in this his *physical* manhood *as such*? Suppose this done away, and your pleasures in this respect cut off, his *mind* retaining the same, would your love go down, and go out, in consequence? Would it even be essentially *weakened* thereby? Somewhat, perhaps, because he being less perfect, mentally and physically, would be less worthy of being loved; but does this his physical manhood constitute the *principal* incentive to your love; or is your attachment to this endowment *subordinate* to your love of his *intellectual* capabilities and *moral* excellence? *This is the question*. Your answer is the required verdict. We will not frame your answer for you, but leave *you* to answer *practically* in your various circles and general conduct.

Man, too, carries within the inmost recesses of his own soul a sponsor to this spirituality of true love: less in *degree*, but kindred in *character*. Let memory bear the hallowed testimony touching the sexuality or spirituality of your first whole-souled and tender passion. As you partook, day by day, of this *mental* repast, did it not satisfy you fully? As you imbibed, for hours together, those lovely looks, soft accents, and melting intonations, which literally *ravished* your very soul, did you *brutalise* this holy converse by contemplating and loving her mainly as your prospective partner in sensual indulgence? These recollections of "love's young dreams" are my vouchers, and the almost *universality* of their spirituality in all well-organised persons of both sexes put the doctrine of this section of this volume completely beyond the reach of doubt or cavil. Testify ye who have never yet forgotten, who never *can* forget, the holy spell of your first mature and whole-souled affection: was it the *personal* beauty and *physical* sexuality of your adored one that you mainly loved? Profanation, the very *thought*! You sought communion, but it was sexual only as a *secondary accompaniment*; and this spirituality of love *increases* with the perfection of that of the organisation.

Reader, there *are* those who have loved each other's *spirits* instead of their persons—*earnality*, as such, having "neither part nor lot" in this holy union of their inner natures, not even enough to move its correspondent, but as one with whom to hold that *angelic* communion of kindred *spirits* which constitutes love, but banishes lust! Their love was as immaculate as that of the spirits of light; as ethereal as the converse of angels in heaven! It was, indeed, the very distillings of heavenly bliss—*was* that bliss itself! The very ground on which they walked and loved was consecrated—*hallowed* by this sacred emotion! How it quickened to new life and etherialised their every feeling, every aspiration, every element of life, and enhanced its every function! Oh, crown of life! THOU LIFE ITSELF! Oh, blessed memory! Most blessed REALITY! A common LIFE-TIME for a DAY like this!

But WHY this most intense action and confluence of all the *better, higher, holier* feelings and aspirations of our natures—this *combination and concentration* of every function of the body, every faculty of the mind, every element of our entire being, IN ORDER TO THEIR TRANSMISSION TO OFFSPRING? A sentiment thus embodying the very *climax* of both Divine Causation and human happiness—so glorious in itself, so fraught throughout with the most *con-*



summate enjoyment mortals can taste this side of heaven—was not created in vain ; nor merely for its own sake. It subserves some divine PURPOSE. That magnificent purpose is the *intellectual endowment* and the *moral perfection of mankind*. But for the employment of some instrumentality, *self-acting*, and *always efficient*, here one, and there another, of man's *moral* faculties would be wanting in offspring, and man be born a brute ! But the tendency of nature being to *perfect* all her works, man especially, and his intellectuality and morality constituting the *crowning* elements of human nature, *their* transmission, in the supremacy required to guide and govern the animal, becomes *indispensable*, both to his well-being in this life and his endowment with that *spiritual* and *holy* eternity which lives with God beyond the grave ! This mentality, spirituality, and immortality which ally him to *angels* and to God, it is the one distinctive office of this *spiritual* love in parents to impart to offspring—their perfection and power in offspring being proportionate to this spiritual love in parentage. While sensual love, as such, transmits the bodily organs and animal functions, it remains for this *spiritual* love to call forth into the most delightful and intense action possible the entire *intellectual and moral* nature of parents, preparatory and in order to its conferring on man this boon of *angels*, this "image and likeness" of God ; besides purifying and sanctifying the animal by the ascendancy of the moral, and guiding all by *reason*. And it is this *combined and concentrated*, as well as *high-wrought* inter-communion of *every physical, every intellectual, every moral element and function of humanity* in generation, which renders the pleasure attendant on this *double* repast so *indescribably* exalted and beatific to those who *spiritually* love each other, or in proportion thereto ; besides being the *ONLY* means of augmenting and perfecting the intellectuality and morality of its product—redoubling more and more, as its handmaid love becomes more and more perfect, and thereby enhancing, and also uniting in this holy alliance, faculty after faculty, till, finally, when both love and generation have their perfect, and, of course, *united*, work, they embrace within the wide range of their sanctified enjoyment every animal, every intellectual, every moral organ and function of man's entire constitution ! And *herein* consists their power to sway the weal and woe of parents, and to propagate the godlike mentality of man !

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## SECTION VI.

DIVINITY OF MATRIMONY ; ITS DUALITY ; CARNALITY INSIPID AND PAINFUL ; MORAL PURITY AND MORAL REFORM ; FEMALE PASSION ; FEMALE SANCTITY MAN'S SPECIAL CARE ; THE ABANDONED, AND THEIR TREATMENT ; TEST OF LOVE.

Consequent on this vital truth of the spirituality of love, several important inferences require exposition before applying it more specifically to the promotion of connubial love and human improvement.

### MATRIMONY A DIVINE INSTITUTION.

This element of love is *primitive* and *constitutional*. It forms a constituent part and parcel of man's very *nature*. This cerebral organ and its accompaniments are as universally developed as the hands or head, and its mental faculty is as inseparable from the human mind as self-defence or love of life. Nor can its spontaneous promptings be annulled or set aside, any more than appetite, by any possibility whatever. Man *must* love *sometime*, and woman *always*, after fully enrobed in the garments of womanhood. No man or woman lives thirty years without becoming thoroughly imbued with this divine emotion. It intercepts the life's pathway of every human being. Or

rather, it is that sun of life, whose all-pervading light must be seen by *all*, and whose genial warmth all *must* experience. No frigid soul exists,

“ From Greenland’s icy mountains to India’s coral strand,”

unmelted by its beams. No “nation, or kindred, or tongue, or individual under the whole heaven” can either put it out or put it off.

Love being thus constitutional and universal—a constituent element of man’s very nature—matrimony of course becomes equally so; because its natural *terminus*, and the only state in which it can be legitimately perfected. Hence matrimony is an institution of *nature* and of nature’s God. This position is self-evident, and requires neither argument nor amplification.

Still more: Love is a *necessary* ingredient in human perfection and happiness. As anyone born blind or maimed is sadly deficient, and still more so if bereft of reason, or speech, or taste, or memory, because destitute of a constituent element of humanity and capacity for enjoyment; so, whoever lacks this sentiment of LOVE, or does not exercise it, is mentally *deficient* or *deformed*, idiocy of love being as great a blemish as that of reason, or memory, or devotion, or self-preservation. Other things being equal, the perfection and the happiness of every human being are proportionate to the power, the purity, and the right exercise of this heaven-born sentiment. The unmarried may be virtuous, may be happy, in the other departments of their nature, but must be either inactive or depraved in this, and therefore less happy in all the others. They neither fulfil their destiny, nor link themselves into that great chain of human succession by which all mankind are woven into one common brotherhood, but are cut off from all the joys of parentage, and are unconnected with posterity. Bachelors especially must allow the comparative torpidity of their connubial and parental elements, and the consequent diminution of energy in all their other faculties, and comparative insipidity of life, its motives and objects, or else pervert them all. Hence they rank far lower in the scale of being and estimation than their true sphere in other respects; because, wherein consists excellence, except in living up to our *natures*? Nor have they the shadow of a valid excuse. Accordingly, they are less esteemed, and of less account in society, whilst the married feel that their domestic relations add to their dignity, weight, responsibility, and tend to elevate their character and standing; hence people feel more like men and women *after* marriage than *before*. Nor can the maiden exert that influence, or effect it at good, or obtain that measure of happiness secured by marriage. Still the present usages of society forbid her taking other than a *passive part* in consummating these relations: but of this in another connection.

#### MATRIMONY DUAL, OR THE UNION OF TWO ONLY NATURAL.

Nor does this love roam unrestrained abroad, sipping its sweets from every beautiful flower. Duality is its very nature. It centres on a *single* object, not on scores. Say, ye who have loved, did that first mature affection described in the last section diffuse itself over the opposite sex in general, or did it select and hover over one individual in particular, whom it regarded as its choicest flower its very beau ideal of perfection? Can that man be found whose first spiritual love was not individualised? Still, since woman is as much better qualified than man to decide matters appertaining to the nature of love, as she is more affectionate, here also she shall be our umpire. Woman, what say you? Did the first goings forth of this holy emotion embrace all men? Preposterous! Utterly repugnant! True in no solitary instance. It selected one in particular, preferred above all others, in whom it discovered beauties and virtues amply sufficient to satisfy its widest range of desire. Where is the well-constituted man or woman whose experience does not tally with this exclusive individuality of love? And there are thousands—aye, nearly all, in their young love—who gladly give and take the pledge of “single blessedness” in case their mutual union shall fail of consummation. And the very best specimens of love feel the transfer of their affections to be too *great* a

sacrilegè to perpetrate, and hence shut themselves out of the kingdom of matrimonial and parental felicity, solely on account of this instinctive constancy of love to one object, and its native repugnance to any other partner in its love. Reader, tallies not thy *experience* with this doctrine of love's duality; and did it not require a mighty *effort* to break from its desired consummation? Nor, unless insuperable barriers had intervened to prevent the consummation of this dual reciprocity, could you have sundered its exclusive ties, and given your love to another?

Again: Is not the natural tendency of love always to overlook faults and magnify virtues, and thus come to regard its object as better than all others, and therefore more lovely? Ask any truly devoted husband, or wife, or lover, if they do not infinitely prefer their own favourite over all others. Just hear them extol their virtues. Hear them commend even their *faults*—faults in fact, but converted by love into excellences. It is human nature to prefer our *own*, be it even inferior; and love always, and constitutionally, selects its mate, whom it appropriates to itself, and this partiality and individuality increases with the purity and intensity of love.\*

But why amplify or argue a point attested by the perpetual *experience* of every virtuous mind? Who does not *know and feel* that spiritual love lights upon a single object, by which it becomes completely engrossed, and to which it is wholly devoted? Not to have experienced this exclusiveness is not to have loved; and not to have observed its universality is not to have seen what is always apparent. As well argue that two and two make four as that love constitutionally becomes dualised and exclusive; and if love, of course matrimony, which is love's consummation and home.

This quality of marriage and its rites are still farther sealed by nature as her ordinance, over both polygamy and promiscuous concubinage, by her requiring *both* parents to rear and educate its products, the father to provide, and the mother to nurse and train. For nature to allow the parents of one child each to unite with others, and still again with others, in the parentage of other children, would be to divide every house against itself, by bringing together into the same family all sorts of conflicting dispositions and interests, to engender implacable jealousy and hatred between different sets of parents and children, and to annul that law of nature by which we love our own children, and delight to provide for them, but not those of others. Nothing but this quality of parentage—all the children of either parents being by the other—will secure that concord between parents, and that suitable rearing of children, so essential to both domestic happiness and the continuance of our race. By making the sexes about equal in number, and in a variety of other ways, does nature dictate, as clearly as that we should eat or breathe, that both marriage and its intercourse should occur only between two individuals of opposite sexes, so long as both live.

#### CARNALITY INSIPID AND PAINFUL.

Now since that function which perpetuates our race is but love perfected, if the laws of love are allowed to govern this function, this duality and ex-

\* To attempt to "*cut off*" others in love matters is the very worst possible species of robbery; because, in regard to no other thing is either the strength of the feeling of "*mine*," or the validity of the claim, or the worth of the object, at all comparable to this. Much more wicked and contemptible when the offender, as is generally the case, does it out of mere devilment, without once intending to marry where he supplants; but breaking up the affections of both. Such, however, always have their reward. Woman commits this sin less often than man; yet I know the woman who, though loving and beloved, and merely to eclipse a rival belle, courted and married her rival's *beau*, but who now thoroughly loathes and cordially hates her husband, refuses the marriage rites, and leads a most wretched life (nor is he much less miserable), solely because she violated the laws of love just to supplant her rival. "Served right." Nor have I ever known the individual who committed this wicked deed afterwards to live happily in wedlock. "Good enough for them." All who can consent to do it are probably too depraved to be happy. The mark of Cain is on them all. Targets to be shot and transfixed by the unerring shafts of nature's violated laws.

clusiveness of love not only renders marriage equally so, but also restricts this function to one individual beloved. No species of proof can establish any point more clearly than nature has thus *demonstrated* the exclusive duality and restriction of this indulgence. Restriction, however, is not an appropriate word. We are not *restricted* from eating stones, or swallowing poison. To follow the ordinances of nature is neither restriction nor self-sacrifice, but our own highest happiness. In allotting to us but one connubial partner, nature does not *imprison* us with this one, but promotes our own *happiness* thereby, in securing that exaltation of pleasure consequent on both spiritual love and all the joys of parentage, neither of which promiscuousness allows. Our primitive constitution is all right, and the most perfectly adapted possible to subserve our own highest happiness; so that limiting these pleasures to the sacred pale of wedlock is the very way, and *only way*, to *perfect* them and enjoy them in their highest state of fruition. Nature's ordinances are not arbitrary. Her interdictions of both libertinism and carnality is based in man's own *interests*—in the greatest earthly good of parents, of children, and of mankind at large. Nor do the laws of chastity and virtue derive their main sanction from either the civil code or the book of morals and religion, but from that fundamental arrangement of man's constitution, of which both at best are only transcripts—a source as high as the throne of God, and compared with the sacredness of which all *human* law is as nothing. Chastity is inscribed on man's *innermost soul* by this exclusiveness of love; and since nature invariably rewards all obedience to her laws, as well as punishes their infractions, she will neither postpone the pleasures of continence nor the penalty of carnality; but, in and by the very *act* of our living in virtuous wedlock, bestow upon us the greatest possible amount of even *hymeneal*, as well as connubial and parental pleasures; whereas the sensualist, in and by the very breach of this law of his primitive constitution, both curtails the very pleasures of hymen sought, and incurs all the direful penalties of violated natural law. Nor can he possibly be happy even in his carnality. His very sensuality itself renders him miserable. *To be happy, he must live in accordance with his nature*; that is, must partake of his hymeneal repasts exclusively within the narrow enclosure of virtuous wedlock. There alone can they be truly pleasurable. But *there* it can be *all* pleasures, and limited only by the capacities for enjoyment. If promiscuous indulgence had been more promotive of human happiness than continence, nature would have *provided* for it, and even ordained it; but her interdicting it, by this exclusive preference of love, is proof more "strong than holy writ" that LICENTIOUSNESS IS MISERY. *Nature does not grudge us our pleasures. She embodies all that even a GOD could invent or do to promote them.* And does HE not know what will render us the most happy; or, knowing, not also *do*? In case unbridled lust could have yielded more enjoyment than wedlock, would HE not have incorporated it among the institutions of our very nature, so as even to *compel* it? Contracted are his views of things who expects pleasure in violating an ordinance of his being; that is, in licentiousness. Ignorant are they who do not know that VIRTUE IS BLISS; and miserable they who do not live accordingly.

Let then the libertine revel in his lustful, and therefore comparatively tasteless, pleasures, so soon to become the gall of bitterness to his inmost soul! Let the abandoned prostitute themselves for gold—for a *living* even—but, while the world stands, will the bed of lust be comparatively insipid, even for the time being,\* besides ultimately torturing the body and polluting the soul! Mistaken they who expect happiness in either promiscuous indulgence or unbridled licentiousness. Partial and temporary pleasure they may sometimes afford, but only to fill a *lifetime* with unmitigated sorrow. How completely foolish the sensualist! Blasting the very pleasure he seeks! Bartering the most luxurious apple of paradise, for the green, bitter, and poisonous

\* Milton has well said, that the embrace of harlots is tasteless. The context and previous section show why, namely, because it gratifies so small a portion of the faculties, and poisons all

grape of lust! Virtuous love and wedlock, so far from curtailing even the *sexual gratification* he seeks, would unspeakably enhance it; because then his Amativeness would both co-operate with intellect and moral sentiment, so essential to its sanctified pleasures, and also fulfil an ordinance of his nature; whereas in the sensualist, it is compelled either to act independently of both, or else in their very teeth, and thus to *violate his nature*; for, the moment his higher faculties are exercised, they interdict its cravings except governed by that spiritual love which limits them to one beloved object. Oh! pitiable victim of carnality, if thou but knewest what a heavenly birthright thou hast lost—squandered for a paltry “mess of pottage”—thou wouldst indeed repent and reform! Pleasure in thy carnality thou wilt never find! *But holy love yields it in quantity commensurate with thy utmost capacity for its enjoyment, and in quality the most delicious morsel thou canst taste on earth!* But thou art wandering from it, and incapacitating thyself for partaking thereof. Would to God and thine own soul thou knewest that on this spiritual love grow the very pleasures thou seekest. And, oh! thoughtless youth, yet unloving and unloved, neither the gold of Ophir, nor the treasures of Egypt, nor the crown of the whole world, nor any, nor all other blessings combined, at all compare in value with the experience of virtuous love, in place of raging, torturing lust! Fulfil this spiritual and *dual* condition of love and hymeneal pleasure, and a *world* of perfection and bliss will it shower down upon thyself, thy companion, and thy children! And let those who would literally revel all their lives without satiety in enjoyments the most luxurious this side of heaven, duly govern and sanctify this passion.

## MORAL PURITY AND MORAL REFORM.

No man or woman thoroughly indoctrinated with this cardinal truth of the spirituality of love and greatest pleasure of virtue, can become or remain licentious. To know and feel that *it alone* embodies even *sexual* pleasure in its most perfect fruition, in *addition* to all its other luxuries, will root out sensuality and substitute moral purity. It will bury lust by converting it into virtuous, and therefore happy, love—what sinful passion perverts and therefore renders miserable. It will quench those raging fires of sensuality which consume both soul and body together, and light up instead that sacred flame of moral purity which sanctifies the soul. Men do not love misery. By a law of their very being they shrink therefrom. They *seek happiness*, constitutionally and universally; and as instinctively shun both suffering and its cause as they do the envenomed viper; and for the same reason. They therefore simply require to *realise* that sensuality always and necessarily induces misery, whereas virtuous love embodies all the pleasures, even of hymen, to be induced to seek the latter and to shun the former. Anticipated enjoyment is their only motive for sinning. Hence let them fully realise, in their inmost souls, that spiritual love alone yields in perfection the very pleasure sought, and that sensuality is misery, and they could never consent either to inflict this self-torture on the one hand or on the other, to rob themselves of hymeneal pleasure. Pure selfishness—the happiness of virtuous love and the misery of vice—these incentives are the great *practical* motives urged so *feelingly* upon us by our Heavenly Father to entice, *compel* us to choose virtue and avoid sin; besides being more efficacious than all others combined; those drawn from eternity not excepted. We can neither drive men by law, nor shame them by exposure, as effectually as *entice* them by this *conduct-reaching* motive of *self-interest*.

RECIPROCATED AFFECTION still more effectually subverts moral purity, while INTERRUPTED love is the principal cause of moral pollution in all its forms—a doctrine completely established by the entire constitution of love, its exclusiveness in particular. As long as this spiritual love is reciprocated, so long both parties are perfectly satisfied with each other. Neither wishes to reciprocate one single item of love with any other, but both regard a change of objects as moral treason in its worst aspect, and infidelity as sacrilege, than

which absolutely nothing is more utterly abhorrent, because a breach of the most sacred relations of the soul. As long as the affections remain reciprocated neither has the least occasion to stray abroad, because completely satisfied at home. Until that exclusiveness of love already shown to constitute its leading condition is interrupted, it almost *compels* virtue by discerning desirableness in no other, and regarding all perfection as centering in their dearly beloved. But, this holy spell broken, temptation now takes effect, whereas before it could not be admitted even to a *hearing*, because the whole soul, already completely preoccupied by love, was perfectly shielded throughout against all desire of another love; much more against seeking to enjoy its foreign repast. As long as the human soul remains bound up in its first bundle of devotedness, so long the temptations of even a Joseph can take no effect. If my *all* depended on the continence of a thousand youth of both sexes, as long as their reciprocated affections were fanned by frequent endearments or cherished by anticipated marriage, I should feel perfectly safe as regards them all, even if they were surrounded by all the allurements of a lascivious world; because reciprocated love is a perfect antidote of passion. For lovers to seek foreign indulgence while warmed by the sacred fires of reciprocated affection is morally impossible, and a mental anomaly. But this barrier, love's chief protection, swept away, not one in hundreds but could be enticed to make shipwreck of virtue, and defile the soul. Before, this sun of love excluded from the enchanted vision every star of beauty, itself alone worshipped with exclusive and devoted homage: but this sun set, star after star of unhallowed passion rises on this same horizon, and lures from virtue's sacred pathway. Even high-toned moral principle, though it may sometimes prevent transgression *in deed*, yet cannot so completely shut out all foreign *desire* as to prevent the sin of the *soul*. The cravings of unrequited love sigh in secret for some kindred spirit on whom to lavish its gushing, though bleeding, tenderness. Spontaneous, and therefore no more to be kept at bay by force of will than appetite or memory, this element hungers and thirsts, not primarily for mere carnal gratification, but mainly for this *spirituo*-sexual communion of our subject, robbed of which in the interruption of its first love, it naturally seeks for it elsewhere. It cannot lie dormant after once awakened, any more than any other primary faculty. That licentious young man fell *in and by* the interruption of his affections; and every daughter of infamy was *first* ravished *in soul*, and then either cared not what became of her person, or else sought in passion what she was denied in virtue. Know you the husband who does not cordially love his wife? If he does not love and go abroad, it is not for want of desire; and he who does go abroad is not perfectly cordial at home; because connubial bliss effectually kills all wandering desires. So, too, it is not difficult to gain the affections of that woman who lives unhappily with her man, or who has experienced interruptions, because all alive with susceptibility, and panting for reciprocity; and *they* obtained, her person falls an easy sacrifice, unless prevented by a mighty effort of self-restraint. Nor can that man or woman be found who has been induced to practise this iniquity before their affections were blasted. Who ever knew any one become lewd while their first love was nurtured by a prospect of marriage? The annals of moral pollution furnish no such record, whereas every son and daughter of vileness will be found to have become inflamed by passion *in and by* interrupted love. Bear the painful testimony, ye carnally-minded men, and ye lascivious women. Was not this the wide gate that opened you into "the broad road" of depravity? Upon the unhallowed records of passion, upon universal observation and experience, we rest this dreadful issue.

If this great *practical* truth, that disappointed love is the principal cause of carnality in all its forms, in all its heinousness, requires further proof, it has it in that constitutional law of love, that the *person* naturally goes with the affections. That function instituted to perpetuate our race, is but the *ultimatum* and the *constitutional* accompaniment of love. But for this union, love would not promote offspring any more than memory, or devotion, nor effect any end whatever; whereas the constitutional union of love with this

function renders propagation certain. Love being thus indigenous in all, and then tending directly to induce this parental function, almost *compels* man to fulfil this natural duty and destiny of multiplying his race. Explain on any other ground the bridal sacrifice on the altar of love, of what is held dearer than life, and consequent cheerful submission to what otherwise native modesty would generally repel. SPIRITUAL LOVE IS MATRIMONY.

Candid reader, is not this the correct philosophy, and the actual fact? Learn then, and practise, the great practical lesson it teaches, of bestowing the affections only where the person also may be lawfully surrendered for life, and thereby quell all the soul-polluting cravings of incontinence, and secure all the felicity of wedlock.

The inference now becomes obvious and most forcible that man will never be virtuous as long as he thus "courts by the quarter," and loves "here a little and there a little," nor woman so long as her affections are thus wantonly rified. To break off the loving pair is virtually to convert their love into lust; and yet purse-proud parents—some who even pray for moral reform—do so, and thereby ruin the moral purity of their children by the thousand. The prevalence of licentiousness is both the witness and the legitimate and necessary product of this extensive blighting of love. Love constituting matrimony, its interruption is an infraction of the laws of matrimony, the legitimate punishment of which is licentiousness—meet penalty for so great a crime, and following directly in its wake. No crime—not even murder—is greater than breaking these matrimonial relations, for frequently it either takes the life of its broken-hearted victims or plunges them into infamy and woe! No penalty, therefore, should be greater, and accordingly, what is more fearful than the wages of this sin? The holiest feelings of humanity polluted and trodden into the dust! The flood-gates of every species of wickedness hoisted! Pandora's box of physical and moral malady opened upon man! And all only the natural consequences and penalties of trifling with connubial love—that most sacred element of our nature! Would that mankind duly estimated this consecrated emotion, and trifled with it no more than with death!—that they considered its violation, as indeed it is, *the* crime of all crimes—the greatest destroyer of human happiness and incendiary of human passion!

Labourers in the glorious cause of moral purity, our subject lays out your course of procedure. It tells you to say less about licentiousness, *as such*, and more against this almost universal flirtation and coquetry of both sexes. These are the chief causes of moral impurity. Remove *them*, and properly direct and sanctify the affections of both married and single, and one generation will bury this vice in all its forms, and substitute moral purity in its place. Other efforts but lop off the branches of this deep-rooted and wide-spread tree of human corruption and woe, while *this* lays the axe at its very root.

#### FEMALE PASSION.

Woman is freely accused of being the tempter to licentiousness. The prevalence of this, or a kindred sentiment, even among the moral and enlightened, is so general as to require canvass.

Woman's *endowment* with the sexual passion is admitted. Deprived of it she would be shorn of every female charm—bereft of her peculiar loveliness, and incapable of fulfilling the end of her female constitution.

But its *RELATIVE strength*—this is the question. On this point let Phrenology be the judge, and its experienced practitioners the witnesses. Testify: Is not this organ *smaller relatively* in woman than in man? This is the inductive observation of the author, which his extensive practice entitles to some consideration; nor has he seen the practitioner whose observations have led him to a different conclusion. With this that description of her love already given coincides. Constitutionally, therefore, she is more virtuous and less passionate than man.

Still she often sins. Females in high repute for virtue and propriety sometimes surprise us by elopement, or premature maternity, or throw

themselves away on a sensual vagabond; and not a few allow liberties construed by man into signs of wantonness, while very many ply the enticements of courtship with an assiduity and earnestness evincing a pretty strong desire for wedlock. All this, and much more, is set down to the score of female passion or unfaithfulness, and the blame of her own fall, as well as much of man's sensuality, is charged on her.

But is not this female frailty, and even the occasional paradox of truly excellent women becoming fascinated, perhaps seduced, by men known to be corrupt, all explained on the ground of that concomitance of love and person already shown to be both a law of love and *the* instrumentality of multiplying our race? Woman's *affections* once enlisted, her person is too often surrendered at discretion; but she cannot *possibly* be seduced *except* you first gain her love. Testify ye whose experience qualifies you to judge: Was virgin purity *ever* first to proffer or solicit pleasure? Independently of love, and before her affections have been called out, have you *ever* found her the enticer? Never. Man, besides being the universal aggressor, is obliged, in nine hundred and ninety-nine cases in every thousand, to break her into the harness of passion by dint of both stratagem and perseverance. True, *when* thus broken, she often pays him back in his own coin. But our inquiry relates to her *natural* bias. Proffer sexual pleasure at first, if you dare, and she will both spurn *it* and despise *you*. Take liberties before you get her love, and you "catch a Tartar." Nothing equally rouses her deep indignation—her implacable hatred. But her affections once enlisted, she tolerates what would otherwise be utterly repulsive, partly because, though deeply pained by your conduct, her love throws the mantle of charity over your faults; and partly because, where she loves, a disposition to oblige is as natural as breathing. Because she lacks sufficient firmness to resist, and yields to your importunities mainly out of kindness (though she would infinitely prefer propriety), you think your liberties acceptable, condemn her as wanton, and proceed with increased boldness, little realising that her apparent passivity, perhaps even reciprocity, is far more likely to result from her strong native (though in this case unjustifiable) disposition to oblige, and difficulty of resisting those she loves, than from carnality. And now, woman, I appeal to you: Does not this tally with your own consciousness, and cause and account for some of your derelictions, otherwise unaccountable even to yourselves? Depraved man, are you willing to effect her ruin by means of this, her native *kindness*? Bear in mind that often, nay *generally*, she simply *tolerates* from *kindness* what she loathes, but has too little sternness to resist.

FEMALE SANCTITY SHOULD BE MAN'S SPECIAL CARE.

But man should give woman no *occasion* to govern either her person or her love. Well married she would not have any, nor would she have any before a suitable age for marrying. Properly develop and direct her affections by giving her a suitable, seasonable object, and not one in ten thousand could be seduced by any possibility whatever. While ripening into marriage, or concentrated on a husband, that exclusiveness of love already demonstrated precludes even the *possibility* of her fall. But break *this* off, and her affections will shoot out in some other direction. Arrest their primitive flow, and they will seek another channel. *Flow they must*. Death alone can stop them. This overwhelming power of woman's love is that alone which fits her to become the wife and mother. What would she be without those strong affections? A drone. Even less, because of *no* service in her feminine capacity. Behold how they exalt her nature! See how they transform her from nothing to a terrestrial *angel*. This devotedness of her love renders her the most perfect work of creation's Architect. Even an angel's power of speech could not pourtray the exaltation added to her nature by this endowment! Is it God-like to "love our enemies" and "return good for evil?" Behold her clinging even to her *betray*er with a devotedness bordering on *madness*! Mind and body a complete wreck, effected by arts the most



diabolical, so that one would expect her to arm herself with fiendish vengeance, and drink his heart's blood; yet behold her fondly embracing him, and still delighting to serve him even to the utmost that devotedness can possibly devise! Keeping sleepless watch night and day over his sick bed! Seizing every opportunity to load him with kindness! Closing her ears to whatever is uttered against him! Blind to his faults, though as palpable as Egyptian darkness, and pertinaciously defending him, though as black with crime—committed even against herself—as a devil incarnate! Utterly regardless of self, and patient under all the misery she suffers, because inflicted by *him*! And devoted still!! Aye, even *wrapped up* in him, and meekly enduring any and every torture he inflicts! Oh, woman! thy love is indeed a marvel! Could angels more than requite *such* evil with *such* good?

But if she can thus love and bless even her *betray*er, and a human fiend, what can measure her love for *virtuous* man, intelligent, pure-minded, and reciprocally devoted? Her greatest happiness is to render him happy! A living sacrifice of self equally complete, a devotedness equally entire, a power of emotion equally intense and divine, mortals are privileged nowhere else to behold! "Entreat me not to leave thee! for where thou goest I will go; and where thou lodgest I will lodge; thy people shall be my people, and thy God my God."

And now, oh, man! how can you convert this ecstasy of her love, and its consequent concomitance of person, into your chief instrument of her ruin? Will you pervert what was instituted expressly for your own highest good into an instrument of death to her body, pollution to her soul, and destruction to all her angelic excellences? Granted that her ecstatic love puts her within your power, will you seduce her because you *can*? Will you not rather refuse indulgence attainable, and even proffered? Will you make her weakness, or rather her highest female ornament and crowning excellence, your dagger? Shall not the very *fact* that you can thus easily win her love, and through it possess her person, *protect both*? Is it contemptible to tantalise a helpless victim, or break the bones of a helpless foe, and is it not infinitely more so to torture a helpless suppliant, and she our best friend and greatest earthly *blessing*? A pirate once captured a merchant ship. The pirate captain encountered, in deadly combat, a resolute seaman of the latter. Long and desperately they fought and thrust, each doing his very utmost to imbrue his sword in the heart's blood of the other. An unlucky blow at length broke the seaman's sword at its hilt. Baring his breast, he cried, "Stab, for I'm in your power." "No," exclaimed the pirate, "as long as you fought me I sought your life; but now your helplessness is your safety. So far from killing a defenceless foe, I will protect your life even with my own." All nature through helplessness is safety. Shall the fond mother love and cherish her feeble offspring most, and shall we avoid treading on the worm because of its impotence, and shall man stamp woman into the very dust because in his *power*, though put there for his own good? Or is it so great a victory to capture her affections and through them possess the citadel of her person. Will you despoil it because you *can*? Will you rob her of her priceless jewel—and all the diadems of earth are trash compared with woman's virtue—because you have her in your power? Shall not such possession render you responsible for her safe keeping? Why vaunt yourself almost to bursting because you can commit, or *have* committed sacrilege? And yet, how many men recount their female conquests, obtained by whatever stratagems and false promises, as exultingly as Indian warriors pow-wow over their scalps, thus glorying in their own shame! Even those whose consciences prevent actual indulgence often go far enough to see that they could go farther, and then boast of their power over woman's passion, and jeer at the "easy virtue of the sex."

We would not by any means weaken woman's efforts at self-protection by throwing the responsibility wholly on man, but we would save her from ruin by charging her to bestow her *affections* ONLY where she may properly surrender her *person*. This done—her love, governed by that great law of the

ascendency of the moral sentiments and intellect already developed, she need not be for ever on the alert lest she fall. Properly to guide and govern her affections is perfectly to protect her person; because her person is utterly inaccessible except through the gateway of her affections. Keep that closed, and the fortress of her person is absolutely impregnable. Guard but the beginnings of love, and restrain its first goings forth till you are certain of happy wedlock, and the wily arts of the seducer will make no impression. Does this scientific safeguard weaken resolution? Does it not nerve to effort, by pointing to complete salvation easily attained? So far from casting you into the stream of passion and promoting passivity, while its fearful current sweeps you on to destruction, it puts the only oar of self-preservation into your hands and tells you how effectually to ply it, or rather it keeps you secretly housed on shore till you may virtuously and happily embark for life. This intimate connection between the person and affection—your only vulnerable point—your betrayers fully understand, yet you do not; and hence you too often open the door of affection to their solicitations, through which they then too readily violate the sanctuary of your person to pollute and destroy both.

Woman! pray mark well this principle, and hail it as your deliverance. Scorn and neglect it at your peril!

“But why break the secret, and thereby help to make men seducers, and thus ruin woman by wholesale?” Are seducers then ignorant or fools? Do gamblers understand their black game better than these devils incarnate understand the art of seduction? Could a means thus palpable and efficacious escape their eagle vision? But who has befriended woman, by pointing out to her his weapon and her danger?

And now, oh, man! I carry the appeal home to thy inmost soul. By all your love to the mother who bore you, to the sister who dotes on you, and to the dear one whose gushing tenderness you have won, as well as to the gentler, angelic sex, I beseech you, guard the sanctuary of female love and virtue! But, should this appeal prove unavailing—even though you “fear not God nor regard man,” nor woman—yet at least, for your own sake, preserve both her affections and her person. She defiled, what becomes of man’s domestic happiness? Her every instance of frailty reacts on him; so that even his own interests should induce him to preserve her pure. Especially since she does not seduce herself should he charge her frailty to his own perfidy and carnality. Ten-fold is his guilt, since he cannot possess her person without first ravishing her affections; and defiling her body, though a mountain in itself, is but a molehill compared with blighting her affections. Look at that injured one. Her soul humbled! Her whole nature, with all its charms, all its capabilities of conferring and experiencing enjoyment, and all its angelic perfections laid in ruins! All her joys converted into sorrows! Accursed is that fiend in human shape who does this wicked deed! Hurléd—aye, even hunted—should he be from society! Scorned by man—spurned by woman! Uncheered by any ray of love. Compared with this crime murder is a trifle. Even hanging is too good for him. The deepest place in hell is his. And he is in a perpetual hell on earth, whose flames he himself has lighted, while from the heaven of love and all its joys he has for ever shut himself. The raging fires of his hellish passions are lit up all around him, all within him. Pestilence is his very breath. Moral stench his only atmosphere! Gross sensuality his perpetual wallowing-place. That very blackness of depravity which can ruin unsuspecting woman is that deepest sin and suffering which constitute hell.

Him I reprobate, his victim I pity. Pity both—him for his ignorance and depravity, her as his sacrifice; him for driving the car of passion thus recklessly, her as being crushed beneath its wheels. Neither know what they do. Still, I commiserate her most, because though least guilty, she is most severely punished by that false state of public sentiment which condemns her as most vile, and her very presence as moral pollution, while it censures him less than for committing some trifling misdemeanour. Though plighting his solemn vow of marriage as the only means of accomplishing his diabolical end, yet he suffers

little or none in either standing or business, while *she* is turned out to starve or else to live on the wages of her shame and sin. He flirts again, and yet again, ruining victim after victim, while she is spurned by all. Oh, society, thou art a tyrant! WHY this fish of one and fowl of another? And of the *wrong one*. This proscriptive spirit is not Christianity, is not humanity, is not philosophy. Nor does it deter others, while it ruins uncounted thousands of those whom forgiveness would save. The odium heaped upon those who have made one false step drives them down to destruction. This unjust state of public sentiment is the great peopler of houses of infamy, which the *restoring* spirit would rob of their tenants. Does God forgive us our trespasses, and shall not we also forgive one another? Shall we pray "Our Father, who art in heaven, forgive us our trespasses as we forgive" others, and yet be relentless towards our fallen sisters?

## ABANDONED WOMAN AND HER REFORM.

Abandoned females are generally considered as *constitutionally* the seum and offscouring of mankind. Of *some* this is true, but not of all. Many of them are *naturally* superior women mentally and physically—splendid looking as well as truly beautiful and intellectual.\* Indeed, it was their beauty and its accompanying intensity of feeling which ruined them. The taste of no epicure for his delicacies and viands equals that of seducers for their prey. Ordinary women tempt their appetite less. "The best, or none," is their motto. I appeal to observation whether the majority of premature mothers, and of those seduced, have not warm temperaments, and cordial, whole-souled feelings—just the elements, properly directed, for making excellent wives and mothers. Talk to them before case-hardened of their fall, and they weep and sob as if their very heart would break. Their existing depravity, admitted to be without a parallel, is less innate than artificial, induced by circumstances the worst possible. They are more unfortunate than naturally corrupt. Unless they had been seduced by artfulness the most consummate they would now have filled important places of interest and usefulness in families and social circles. *And may yet.* Their case is bad but not hopeless. They have the material upon which to operate, and require only effort, and asylums or kind families, in which to commence reform and restoration. Shall Washingtonianism rescue from the gutter loathsome drunkards, cast off and cast out for a score or 2 years, the pests and detestation of all, and reinstate them in society—converting beggars into princes, aye, making them *eloquent* and *intellectual*—and shall not similar means shed equal blessings on *this* forlorn class? Are they not equally valuable, and equally capable of restoration? Is not their salvation equally desirable? Granted that the labour is more arduous, shall humanity rest till it is achieved? Our neighbour's house is on fire: we run to the rescue, nor heed danger. Shall we then behold the *souls* of the fairest portion of creation set on fire by the torch of perdition unconcerned? "God forbid." Fathers and mothers, brothers and sisters of philanthropy and virtue, let us address ourselves to this neglected but most needed work of humanity. We can save them by thousands if we will, and dry up this fountain of sin and woe. But we can do nothing at arm's length, nor by prayers and preaching alone, but mainly by personal effort. Nor by regarding them as vile things, whose very touch contaminates, but by looking on them as sisters of humanity, and treating them tenderly, never taunting them with their past frailty.

Especially must we prevent their *fall* by removing temptation, by purifying our literature, and especially by banishing novel reading, that hot-house of pollution. We must shut up the grog-shop also. Above all we must reform *man*. What a burning shame that he should prowl, wolf-like, about every neighbourhood and family, seeking, by that taking bait of pretended courtship

\* See illustration of the principle that shape and looks are as character and cast of mind, in the *American Phrenological Journal*, 1845 and 1846.

and marriage, to devour all female virtue, and making such terrible havoc! The most execrable bandit on earth! A mighty work, but it will be *done*. The dawning reformation *must* disperse this vice. Ten years will witness effort, and twenty a mighty change.

TEST OF LOVE : SUDDEN LOVE.

In exact proportion as the love of any individual tends to sexual gratification, *as such*, is it debasing and brutal, because unguided by intellect and unsanctified by moral purity. Shun such, therefore, as vipers, for their lust will vanish with indulgence, and embrace any other sexual *thing* that will feed this flame of sensuality. No reliance can be placed on their continence or constancy. The very nature of their love precludes it. Whereas love based on the higher faculties *kills* sensuality, *as such*, and it finds its satisfaction chiefly in spiritual inter-communion.

Let young women universally apply this unerring test of love to the conduct of their suitors. It will reveal in all its nakedness of deformity the designs of many a villain, however solemn his protestations of true love, and thereby save many a worthy and unsuspecting maiden from all the miseries of unhappy wedlock.

It also condemns *sudden* love as more sensual than spiritual, because, by supposition, the latter has not yet had time to discover that moral beauty on which alone it can be founded.

Our subject also determines a question which has long divided mankind, *viz.*, whether love is sensual or spiritual. Most contend that it is only refined sensuality, and that even the most Platonic consists in a desire for animal indulgence. The love of those in whom Amativeness predominates *is* sensual, and *they* accuse all others of *similar* sensuality; whereas predominant moral sentiment purifies and spiritualises this love in its possessor, so that *he* takes ground for *Platonic* love—shown by our subject to be the highest in character and happiest in effect. It is easy to determine the characters of given individuals from their doctrines as regards love; they who argue that love is only refined sensuality being *themselves* sensual; while in those who maintain that the sensual ingredient is subordinate, it *is* subordinate. Still the two do naturally *go together*, but the spiritual department should always guide and govern the sexual.

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SECTION VII.

STATES OF MIND IN PARENTS MOST FAVOURABLE TO TALENTS AND MORALITY IN OFFSPRING.

The sum of the whole matter is this: Parentage perpetuates our race; offspring take on the physical and mental qualities and conditions of parentage existing at generation. That function which gives being to offspring necessarily awakens all the physical functions in order to their transmission. By means of love, its constitutional predecessor and accompaniment, it also augments all the *mental* faculties as the means of their transmission, and in that supremacy required for happiness.

The great *practical* inference from this is that those parents who desire intellectual and moral children must love each other, because this love, besides perpetually calling forth and cultivating their higher faculties, awakens them to the highest pitch of exalted action in that climax, concentration, and consummation of love which propagates their existing qualities—the mental endowment of offspring being proportionate to the purity and intensity of parental love.

Next they should exercise those faculties most which they most desire in offspring. Not *immoderately*, for that might *exhaust* those faculties and thus injure offspring. Those who would have religious and devout children must exercise their own religious feelings. Religious education must commence

here. If children remain hardened, perhaps scoffers, after all the instruction and efforts of pious parents, the *cause* may perhaps be found in this very omission.

We should also exercise Conscientiousness habitually. We especially should not *violate* it in a matter so all-important; because, dethroned *here*, it gives the whole field over to propensity; but, victorious *here*, few things strengthen it equally; for, if it withstand *this* temptation, it can withstand any other. Allowed to speak out here, it kills base desire. It must dethrone, or be dethroned. Words cannot express the importance of parental rectitude, and the moral glory with which it crowns its offspring.

Spirituality (Marvellousness) should also be continually exercised. It is this which imparts that feeling of purity, ecstasy, heavenly sweetness, and sacredness, which always appertain to love. This emotion etherealises the soul, and raises it above mundane affairs, and creates holy longings and heavenly aspirations.

IDEALITY should also be exercised during the period of their youthful love and onwards. Has not nature taken special pains to banish grossness and vulgarity, and associate purity, propriety, taste, refinement, and elevation of feelings and manners, throughout all the stages of love? Does not love naturally chasten, polish, refine, all that lovers say and do when together, and tend to render them bland, graceful, and accomplished? Let universal observation and experience answer. The reason has already been given. Then should not this refinement be carried into both marriage and parentage? Taste is the twin-sister and only sanctifier of this function, and alone converts it from vulgarity and gross sensuality into a pure and delicate emotion. Woman especially will testify as to its existence and its sweets; yet, alas! she is often compelled to mourn its absence when she most desires its presence, and to endure an uncouthness and indelicacy utterly incompatible with her native sense of propriety and modesty, as well as at war with both her daily converse with her husband and her dearest relations to him. Husbands! pray mark this point; and avoid whatever can offend the refined feelings of your partner in all things pertaining to matters of feeling and affection. Those coarse jests, improprieties, and vulgarities in the conversation and conduct of husbands and wives deteriorate and degrade their feelings and character to a degree little suspected, and diminish affection, where mutual propriety would greatly strengthen it, and proportionately improve offspring.

MIRTHFULNESS should also be exercised by parents, so as to render their offspring brisk, cheerful, light-hearted, animated, buoyant, joyous, and happy. The pleasurable excitement love affords will also greatly enhance matrimonial enjoyment, and consequently aid the endowment of offspring. Nor should parents fail ever to be agreeable, mirthful, cheerful, towards each other.

Approbateness is also essential, in order to give both that acceptable, winning, taking manner, requisite to secure the commendation of each other, and thus promote both the agreeableness of their fellowship and the pleasantness of offspring. In short, parents should habitually and always endeavour to be all that they would wish their offspring to be.

Behold, in this union of intellect and moral sentiment with love, and then of love with the parental function, the DIVINE CAUSATION employed to endow man with MIND. Behold in the fact, that that love which induces this function calls forth, when she has her perfect work, the exercise of both the intellectual faculties and moral virtues, the *means* employed to transmit MENTALITY and create SOUL! Wise infinitely beyond human conception. Efficient beyond the possibility of failure. As perfect as even a GOD could render him. As no other work of the Deity compares in magnitude with the creation of man, so the *machinery* employed in effecting love is equally fraught with the very *infinitude* of Divinity. LOVE, and its constitutional influence in awakening the intellectual faculties and the moral affections of parents at this period to their highest pitch of healthy action, is this Divine instrumentality!

Learn, then, oh ! prospective parents, the necessity of regularly exercising *intellect and the moral affections* throughout the whole of life, that they may never fail to have their proper influence in conjunction with the parental function. How incalculably would that intellectual converse and moral communion, so agreeable to yourselves, enhance the intellectual and moral endowment of your offspring ! Will you not perfect in yourselves by culture what nature requires by instinct ? Shall your intellects lie dormant, when their exercise would stamp the impress of talent, perhaps of greatness, upon your beloved offspring ? Shall your moral affections slumber when their activity, besides exalting your own happiness, is so indispensable to the moral endowment of heirs of immortality ? But alas, how few parents exercise any more mind, or employ any more knowledge in reference to these important matters, than they are compelled to do by the very nature of the function itself !

Behold, again, in this spontaneous accompaniment of intellect and moral feeling with love, and of love with the parental function, an instrumentality for

#### PERFECTING OUR RACE !

Progression is a law of man's very being, written in living character upon every department of his nature. He will not always remain that stupid, degraded, depraved thing he now is. A brighter destiny is before him. A thousand years to come, he will be incalculably superior to what he *now* is, in physiology, in health, in intellectual capacity and attainment ; in short, in every conceivable aspect.

This is to be brought about, we say, by means of SPIRITUAL LOVE and its stimulating influence on the higher faculties of parents, particularly when they unite to stamp their existing mentality on offspring. The *constitutional* effect of this love being first to exalt the action of the higher faculties, and soothe propensity, and then, by means of that natural accompaniment of love with person already shown to be an ordinance of nature, to induce that function which transmits this exalted moral and intellectual action to offspring, it of course renders children better than their parents. Or thus : Children take on the *existing* conditions of parentage. Love renders the higher faculties of parents greater in *action* at this period than they are by nature. It then induces, *while* the action of these higher faculties is thus preternaturally exalted, that parental function which is but the very climax and consummation of love, and which *transmits* this then-existing *increased* moral and intellectual action to offspring. Since, then, the children of affectionate parents receive existence and constitution when love has rendered the mentality of their parents both more elevated and more active than it is by nature, of course the children of loving parents are both more intellectual and moral by nature than their parents. Now if these children and their companions also love one another, this same law which renders the second generation better than the first, will of course render the third still better than the second, and thus of all succeeding generations. Hence, by a law of our very being, this spiritual love, when love has her perfect work, renders every succeeding generation, so long as man continues to propagate, more and still more intellectual and moral than the preceding, and thereby *constitutionally* perfects our race. As yet, man is but a comparative pigmy in everything. He is still in his childhood compared with what this very principle will one day render him. "Eye hath not seen, nor ear heard, neither hath it entered into the heart of man to conceive," the extent to which this principle will yet carry man's physical perfection, his intellectual power and attainments, and his moral virtues ! Philanthropists, behold the grand lever of human reform and improvement. Other reform efforts are brass and copper ; this is fine gold ! Others lop off the outer branches of the great tree of human depravity and woe ; this lays the axe at the *root*, and plants, instead, the trees of Eden. Others improve, this perfects the *germ* of humanity. Education modifies and

trains: this *creates* goodness and greatness. To reform and perfect *parents*, as *parents*, is to reform and perfect mankind. To PROMOTE CONNUBIAL LOVE—*this*, philosophers, is your talisman; this, moralists, is your mighty Archimedean lever. You may preach and pray till doomsday—may send out missionaries, may circulate tracts and Bibles, and multiply revivals, with little avail; because, as long as mankind goes on, as now, to propagate by animal impulse merely, so long must his offspring be animal, sensual, devilish! But only induce *parents* cordially to *love* each other, and you thereby render their children *constitutionally* more talented and virtuous. Oh! parents, by as much as you prefer the luxuries of concord to the torments of discord, and children that are sweet-dispositioned and highly intellectual to those that are rough, wrathful, and depraved, be entreated to “LOVE ONE ANOTHER.”

## IMPORTANCE OF KNOWLEDGE.

Reader, thou has now fairly before thee the gist and substance of our treatise.

If any knowledge on earth is worth possessing, a knowledge of these fundamental principles of human nature, human virtue, and human happiness is worth possessing. Here, pre-eminently, “KNOWLEDGE IS POWER,” power to perfect offspring: and ignorance is imperfection, as well as misery. Parents *may* perchance stumble upon favourable conditions, and avoid the unfavourable, without understanding them. But how incalculably would *knowing* what conditions in themselves subserve both connubial love and the intellectuality and the morality of offspring, and what deteriorate them, preserve from error. In reference to no other work of life is skill equally available, or knowledge more essential to skill. However, let those who love darkness rather than light both close their *own* eyes, and then bark at others for using theirs. But let those who will learn and apply these principles, reap therefrom the richest harvests, and gather the most delicious vintage of life, to both themselves and prospective offspring.

The consequences of this function being thus momentous, it should neither be treated with jest, nor participated in thoughtlessly. Since parents thereby determine the physical, intellectual, and moral destinies of immortals, they should make preparation commensurate with these its undying results. As we do not eat even without a double preparation, first of ourselves by hunger, and next of our food by seasoning, so men should prepare themselves to be parents so as to work out the future talents, virtue, and happiness of their children. Our preparation for visitors is proportionate to our estimation of them. Shall then such visitors for *life* be unprovided for? Indeed, preparation is as much a part of every work of life as the work itself, and often its most important part. Much more so as regards this. Let there be no chance-comers, feebly endowed, because unintended, undeserved. No supervening on previous *exhaustion* of either mind or body, but the most vigorous state of both. Sufficient exercise to promote all the animal and mental functions, but not to exhaust.\*

Above all, the previous and present commingling, and mutual exercise of that *love* shown to be so promotive of desire in parents, and of endowment in children, should not be neglected.

But these suggestions, and many others like them, grow so perceptibly out of our subject, that readers can make their own specific applications. But contrasts deepen impressions, and what follows will serve greatly to enforce our leading doctrine—THE IMPORTANCE OF CONNUBIAL LOVE.

\* Farmers never sire their stock (encourage copulation) when *either* parent is *fatigued*! they even allow them to rest and feed for days before to promote preparation. The steed is never ridden or driven except for exercise. Would that men took proportionate pains to secure the health and happiness of *their* offspring.

## SECTION VIII.

## EFFECTS ON OFFSPRING OF PARENTAL DISAGREEMENT AND UNREQUITED LOVE.

Fully indoctrinated with the great law of things, that children resemble their parents, the counter fact, that the children of truly excellent and religious parents were sometimes irreligious and wicked, puzzled the author exceedingly for a long time. So also did the fact that children sometimes excel both parents in talents and goodness. In short, he could not account for either the degeneracy of some children as compared with their parents, or the superiority of others. He noticed this superiority in one family of children whose parents lived together most affectionately. He had before observed, "in boarding round," that the rough, selfish, bad children of a school he once taught were from parents who disagreed; but that his amiable and knowing scholars were from affectionate parents. His profession had also shown him that those children, one or both of whose parents were intemperate, were less favourably organised than either parent, and that those born *after* the father "took to drink" were inferior to those born before.

All these knotty problems were solved by the two cardinal doctrines of our work: first, that children take on the condition existing in parents at the time they received being and character; and, secondly, that affectionate wedlock, more than all other influences combined, calls forth all the higher faculties, not only habitually, but especially at this period; while nothing harrows up the animal passions so much as either matrimonial disagreement or unrequited love. In the very nature of things, marriage increases the action of *all* the faculties for good or evil—*happy* wedlock increases their action for good; *unhappy*, for evil. What, equally with blighted affection or matrimonial discord, will keep combativeness in so perpetual a foam of fretfulness and anger? It will make almost any woman, however good her disposition by nature, as cross and hateful as Xantippe—it will make an angel a devil. It animalises, sensualises, and demonises the whole being, body and soul together. It steels them against all goodness and greatness. More fatal still, it engenders that lost, reckless, don't care state of mind, which blasts ambition, cripples effort, quenches the spirit of elevation and aspiration, shrinks from sight and hearing, and breeds a desire to die!

But to see the full force of this subject we must bear in mind the power of the affections over the entire mental and physical being. Reciprocated love infuses new life into both soul and body, increases appetite, digestion, muscular elasticity, power and disposition to labour, moral purity and intellectual capability and desire, and augments every power and function of life. But disappointed love weakens muscular energy, exchanges the sprightly step for the heavy drag, enfeebles digestion, supplants the keen appetite by a loathing of its wonted food, diminishes that fulness of respiration which reciprocated love promotes, renders the looks dispirited, careworn, perhaps haggard, as though some dire calamity had befallen them; unstrings the nerves, fevers the brain, dissipates the mind, renders desire turgid, drives sleep from the pillow, or fatigues by dreams of evil, irritates the propensities, plants disease in body and mind, and bears its unhappy victim down into a premature grave. See that loved maiden, all life, and health, and happiness. Her eyes sparkling with joy, her step graceful and elastic, her full cheek glowing with health and beauty, her whole nature overflowing with happiness. But behold her now! Her affections withered by disappointment, her fondest hopes for ever blasted! She vacates her seat at table; she becomes pale and languid; she wearily "drags her dull, slow length along;" she is sad, subdued, and broken-hearted; she rolls restlessly on her fevered pillow; she pines in mind and sickens in body; she becomes incurable—the best medical aid having lost its power; she finally sinks into a premature grave from a broken heart! The welcome grave alone can assuage her grief. Young women die by thousands, ostensibly of consumptions, fevers, nervous affections, and female complaints, but caused, in fact, by blighted love—one of the most prolific parents of these and other



forms of disease. As well bury them alive as blast their love, because the latter will *kill them by inches*. Well is it called a broken heart, because it is a matter of *life and death* both to *body and soul*. Let experience and observation disclose what words can so poorly express—that sinking and blighting in every corner and crevice of the soul—that palsy of the whole being—occasioned by both unrequited love and unhappy wedlock.\*

Look again. Behold that weeping mother, just bereaved of a darling child. She is now healthy, but anon she becomes pale, and wastes away with grief. She, too, becomes an invalid, and sickens and dies, solely in consequence of the influence of reversed affection on health. Note yonder mourning widow. If she shakes off her grief she will survive the shock; but if it continues to prey upon her, it impairs digestion and disturbs the sleep, and, these great *vital* functions impaired, life itself is enfeebled or else destroyed. The *uniform* and the *necessary* consequence of disturbed affection in all its forms is injured health, deteriorated intellect, depreciated moral feeling, and increased and depraved propensity.

Once more: Disappointed love and unhappy wedlock are almost certain to derange the nervous system. Nothing more painfully excites it, and painful excitement is prolific of disease. Few things take so thorough a hold of all the interests of life as love, and hence its interruption proportionally pains, and thereby causes disease; for painful action always diseases the whole nervous system, the brain especially. Now a diseased nervous system necessarily and always diseases the *propensities*, and this, as already shown, depraves them. We need not digress to *prove* this point, but, taking it for granted, we see *how and why* disappointments in love render its subject peevish, cross, irritable, misanthropic, and even wicked—namely, disappointed love irritates Amativeness, and therefore the organs of the body around it, as reciprocated love smooths passion and promotes moral feeling!

Besides, when love remains rivetted we feel that, though the whole world be untrue and unworthy of confidence, our *loved* one is a resting-place for our soul. But when *that* trusted friend proves untrue, we feel that no trust can be reposed in any one. This awakens Combativeness to resent the injury perhaps Destructiveness to revenge it, and thus both rouses propensity and deteriorates the moral tone.

Still more prolific of all these evil consequences is discord between husbands and wives. Married life brings every element of both parties not perfectly harmonised by love into direct collision, and excites a perpetual succession of heart-burnings, and a mutual sense of having been injured. If husband and wife do not cordially *love* each other they *must hate*, except that when they partly love and partly hate they are unable to live together or apart, and are thus rendered proportionally miserable in both states. Discord, in the exact proportion in which it exists, kindles the sour, hating, hateful animal feelings in parents, and depreciates their moral feelings, and therefore transmits this moral depreciation and animal exaltation to offspring.

Besides, since love heightens the ardour of the parental embrace, and thereby improves offspring, the absence of love renders the parental function tame and insipid, and thus enfeebles its product.

As the person goes with the affections, mutual hatred, if carried far, not only annuls desire as regards each other, but produces natural *disgust*. Pure-minded woman prefers *death* to this living purgatory! But having thus drawn attention to this point, we forbear to prosecute it further.

The inference is conclusive that those who do not cordially *love* each other should keep apart, even though married by law, because—first, law cannot possibly justify what nature has unequivocally condemned; and secondly, because such union can never be anything else than mere animal indulgence. Hence their offspring must of necessity be far below their parents in intellectual and moral endowment, because parental intellect and moral

\* The fact is a little remarkable, that most of those who are disappointed in love, or live unhappily with their consort, care little about life, or else desire to die

feeling were not called forth by love, and therefore not transmitted to offspring. Moreover, their offspring must necessarily be essentially animal, because the supposed disagreement of parents rouses all their animal passions, and transmits them thus roused to offspring. Such sensual intercourse is MORALLY WRONG, even in those legally married to each other, because it may—*must*—beget human animals only, but never human intellect and soul, except of an inferior grade. Oh! parents, pause and tremble in view of relations thus fraught with weal or woe to yourselves, your children, and your children's children for ever.

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## SECTION IX.

### ALL-IMPORTANT CONSIDERATIONS TO THE MARRIED: RECIPROCITY.

Love always requires a RETURN. RECIPROCITY is a constituent ingredient in its very nature. Without it neither man nor woman can ever be happy in either love or wedlock. Its absence is misery to the ardour of the one, and repugnance to the coldness of the other. A cardinal law of both love and connubial bliss requires that the more tender the affection of either, the more cordially should it be reciprocated by the other. Both must LOVE EACH OTHER, in order that both may participate with each other in parentage.

The absence of reciprocity here is of course the bone of contention. If similarity in other respects is essential to love, how ALL ESSENTIAL is this, the very essence of the marriage covenant and compact! Matrimonial felicity can no more be had without reciprocity and mutual pleasure here, than noon-day without the sun. Nor can discord co-exist with reciprocity here, any more than darkness and sunshine can co-exist; because they who cannot make each other happy in this, the *ultimatum* of love and marriage, cannot make each other happy in minor matters; while those who can make each other happy will find all the minor causes of discord drowned. Reciprocity here being the heart's core, all the happiness of both love and wedlock—their basis and framework, and superstructure, and *all in all*—those who are qualified to confer on each other this *summum bonum* of matrimonial felicity are bound together by the strongest bond of union connected with our nature; whilst those who cannot confer and receive mutual pleasure in this respect cannot possibly be happy in married life, and consequently cannot possibly love each other, and therefore should never enter together the sacred enclosure of wedlock. On nothing does the bridegroom set an equal value. All else in married life is of little value to him compared with reciprocity and happiness here.

This doctrine of the necessity of reciprocity must commend itself to all who have experience concerning it, while the uninitiated will find ample proof of its truth in the fact that those husbands and wives either of whom went reluctantly to the hymeneal altar never lived happily together. Scrutinise all the cases in which either party was over-persuaded by the importunity of the other, or by officious parents or friends, and every one, except those few in which the requisite reciprocity has been afterwards established, will be found to have resulted in misery to both. Let this principle and fact effectually warn all against persuading or being persuaded to marry against their feelings. Ardent love in one can never compensate for the want of it in the other. On the contrary, warmth in one and coldness in the other is as ice to fire. Reciprocity is indispensable. Then let all beware how they marry, unless BOTH LOVE AND ARE BELOVED.

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## SECTION X

### FREQUENCY.

It remains to define nature's boundaries in this important respect, thereby to restrain exorbitant demand on the one hand, and to prevent excessive taxation on the other. Such bounds exist, and to observe them is the height

of hymeneal bliss. That a most ruinous excess is generally indulged in is certain. What, then, are the dictates of infallible nature?

An infallible guide as to frequency is to be found in its effects on love and offspring. This function being the embodiment of love, and the servant of offspring, whatever amount of frequency is promotive of spiritual love, and the consequent endowment of offspring, is right and even duty. Admit that this function may have two primitive offices, and that its secondary office is to promote connubial love by augmenting connubial happiness, and we are furnished with the largest liberty not injurious or dangerous to health.

One universal guide as to frequency should undoubtedly take precedence over all others. We have already adduced woman's love as the touchstone of the nature of true love. We have also shown that this parental function, the frequency of which we would now determine, is only the *ultimatum* of love—that both are governed by the same laws. Why, then, should not woman be the umpire in *this* case? And this view is both sustained and rendered conclusive by the law of woman's nature. She, then, is that final umpire by which every husband should abide. And if she be allowed to control this matter of frequency, nearly every married pair will be conducted to complete connubial felicity.

Of course, only *healthy* wives are qualified to regulate this delicate matter. Either disease or prostration may render her decision erroneous. Yet, even *then*, more than she desires would be injurious to her; and the husband must conform to the required denial. His lot is less fortunate, yet non-conformity will only increase his misfortune. Even then his wife is his judge; and his only appeal consists in restoring her to health, and thus increasing the enjoyment of both.

Yet the opposite sometimes occurs. When female complaints cause slight inflammation instead of torpor, or a chronic fever, the result is undue desire. Nor will the desired frequency here effect a cure—it will only aggravate; so that voluntary restraint in such cases becomes indispensable.

Undue desire or torpor may arise from other causes—may be hereditary—yet these exceptions leave our great governing rule the same. If parents in general would diminish their frequency, they would be incalculable gainers in the amount of pleasure experienced, besides doubling perhaps quadrupling all the endowments of their offspring. No mistake can be greater than the prevalent supposition that hymeneal pleasure is in proportion to frequency. It is the reverse. Do we not enjoy a single meal when really hungry more than scores when not so? Frequency begets satiety and gluts the appetite and enjoyment. The married pair should be abstemious if it were merely as a means of securing the pleasure sought.

Strict temperance promotes all enjoyment. Intemperance is destructive of the very pleasure sought. We go for *self-enjoyment* in the truest and fullest sense of the word, that exercise of this function which yields the most enjoyment, both of *itself* and in its various and multifarious bearings on our *other* enjoyments. But as a single meal eaten with the keen relish conferred by appetite gives more exalted pleasure than scores without it, so hymeneal temperance is the secret of hymeneal pleasure, while the cloyed advocates of unrestricted indulgence deprive themselves of most of the pleasures they seek, and the few which are left are *embittered*. We shall be remembered with gratitude for advocating this doctrine of abstinence by all who put it in practice. Our doctrine is the true interpretation of nature's ordinance.

Compare the effects of unrestricted indulgence with the effects of strict temperance. Their difference is infinite. The former sensualises and depraves. It also breeds disgust for its paramour. We regard the partner of our intemperance as a kind of *animal tool*, a mere sexual *thing*, gross, low, and sensual. This shows why the *libertine*, however intently he pursued his prey before indulgence, becomes indifferent to her after, and finally casts her off. This is *always* the case. It is based on the law of mind that sensuality in and of itself degrades its joint partner in their own eyes, and breeds disgust of self and one another, deteriorates the moral tone, and demcan and animalises the

entire being ! This abasement is *inherent* in excessive indulgence. Nor does marriage wipe away the polluting stain. Carnality is carnality in wedlock as much as out of it, and constitutionally "breeds contempt, disgust," and hatred, even between the married. This must always be the case.

Does not this principle develop one cause of the great difference in the estimation in which *many* lovers hold each other before marriage, compared with their estimation of each other afterwards ? That such depreciation often takes place is too true. Yet these deteriorating effects on love are experienced only by those who do injustice to their nature, or violate the laws of temperance.

Far otherwise is the effect with the strictly temperate. With *them* this inter-communion, so far from *lowering* them in each other's estimation will greatly elevate them.

Intemperance vitiates and poisons all it touches ; while virtuous and temperate indulgence sanctifies, and purifies, and perfects !

Choose, then, between the blessing and the curse. May a vigorous intellect determine thy choice, and moral purity guide thy proceeding. God forbid the sacrilegious prostitution of this high and holy function to brutal lust !

May this treatise tend to PROMOTE CONJUGAL AFFECTION—to SANCTIFY ENJOYMENT—to ENDOW OFFSPRING with the best physiology and the highest mentality in the power of parentage to confer, and thus ADORN, PERFECT, and BLESS MANKIND, both now and for ever. AMEN.

# MATRIMONY;

OR,

## PHRENOLOGY AND PHYSIOLOGY

APPLIED TO THE SELECTION OF CONGENIAL PARTNERS FOR LIFE; INCLUDING  
DIRECTIONS TO THE MARRIED FOR LIVING TOGETHER  
AFFECTIONATELY AND HAPPILY.

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MAN is eminently a SOCIAL being. This is evinced by his phrenological developments, and by his disposition to congregate and form friendships. His social affections lie at the very *basis* of his virtue and happiness. Parental and connubial love are among the highest species of enjoyment belonging to his nature; while blighted affections and family dissensions bear the most bitter fruits he can taste—the former placing its happy possessor almost above the reach of trouble; and the latter, being the canker-worm of his every pleasure. The operation of no element of his character is more conducive to virtue or happiness, and the destruction of none would leave him more utterly desolate and wretched.

How beautiful, how perfect throughout, are the domestic relations! How comfortable, how happy the family group gathered around their own fireside! Husbands and wives quaffing the unalloyed sweets of connubial love—parents protecting their children, and children nestling under the kind wings of parental fondness—the parents providing for the children, and the children serving the parents, and waiting upon one another—the elder children serving the younger, and the younger clinging affectionately around the elder—the whole family commingling their joys and sorrows; all bound together by the strongest and most tender ties of nature; bestowing and receiving the caresses of affection, and reciprocating a continued succession of kind offices. If there be a green spot on our barren earth—a pleasant picture upon which the fatigued eye can rest with delight—it is the *happy family*—it is domestic bliss.

No other class of faculties exert a greater influence upon man than the domestic ones. From no other fountain of his nature gushes forth a deeper, broader, or more perpetual stream of happiness or misery.

Since the obedience or violation of those laws which govern these social relations *cause* all this enjoyment or suffering, a *knowledge* of them is ALL-IMPORTANT, especially to *young people*. Phrenology beautifully and clearly unfolds and expounds these laws.

But, in order fully to appreciate the vast power of the social faculties, or understand those laws which govern their action, we must briefly *analyse* them. They are—

## AMATIVENESS :

*Reciprocal attachment and LOVE of the SEXES for each other.*

Its primary function is connubial love. From it mainly spring those feelings which exist between the sexes as such, and result in marriage and offspring. Combined with the higher sentiments, it gives rise to all those reciprocal kind feelings and nameless courtesies which each sex manifests towards the other ; refining and elevating both, promoting gentility and politeness, and greatly increasing social and general happiness. So far from being gross and indelicate, its proper exercise is pure, chaste, virtuous, and even an ingredient in good manners. It is this which renders men always more polite towards women than to one another, and more refined in their society, and which makes woman more kind, grateful, genteel, and tender towards men than to women. It makes mothers love their sons more than their daughters, and causes fathers to be more attached to their daughters. Man's endearing recollections of his mother or wife form his most powerful incentives to virtue, study, and good deeds, as well as the most powerful restraints upon his vicious inclinations ; and in proportion as a young man is dutiful and affectionate to his *mother* will he be fond of his *wife*, for this faculty is the parent of both.

Those in whom it is large and active are alive to the personal charms and mental accomplishments of the other sex ; ardent admirers of their beautiful forms, graceful movements, elegant manners, soft and winning tones, looks, accents, &c., seek and enjoy their society ; easily reciprocate fond looks and feelings with them ; create favourable impressions, and kindle in them emotions of friendship, or the passion of love ; and, with Adhesiveness (or Friendship\*) large, are inclined to marry, and capable of the most devoted connubial love.

Those in whom it is deficient are proportionately cold-hearted, distant, and ill at ease in the society of the other sex ; and less tender and affectionate, less soft and winning in their manners, less susceptible of connubial love, less inclined to marry, &c.

Its combinations, which so modify its action as actually to change its character from the best of feelings to the worst of passions, will be given after the other social faculties have been analysed.

Amativeness is supposed to be sub-divided ; the lower and inner portions manifesting the mere animal passion, or physical love ; the upper and outer portion, next to the ears, giving a disposition to caress, accompanied with pure platonic affection.

## PHILOPROGENITIVENESS :

*Parental love—Attachment to ONE'S children—Love of children generally.*

Man enters the world in a condition truly helpless. Infants require a great amount of care and nursing. This infantile condition of man has its counterpart in this faculty. Without its stimulus to provide for and watch over infancy every infant must inevitably perish, and our race soon become extinct. No other faculty can fill its place, or accomplish its end. Infants cannot be

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\* Phrenology has suffered somewhat from the attempt of its founders to put it on a scientific footing, and especially in giving *learned* names to the organs, instead of plain English names, expressive of the *function* of the faculties. In order to make himself more fully understood by all, the author will use the term Friendship instead of Adhesiveness ; Parental Love instead of Philoprogenitiveness ; Resistance instead of Combativeness ; Appetite instead of Alimentiveness ; Belief instead of Marvellousness ; Observation instead of Individuality ; and so with others, the names of which do not already express the function performed by the organ.

regarded as friends, so that Adhesiveness cannot help them. Though Causality might devise ways and means for their relief and comfort, yet it would not execute them; and though Benevolence might do something, yet it would be far too little for their physical salvation or for their moral and intellectual cultivation; for how many are there who are kind to adults, but unwilling to be burdened with the care of children?

These vexatious and expensive little creatures are far more likely to array Combativeness, Destructiveness, Acquisitiveness, &c., *against* them, than to enlist Benevolence or any other faculty in their behalf. If parents were not endowed with a faculty *expressly* adapted to the nursing and training of children, their burden would be intolerable. But this faculty not only casts into the shade all the toil, trouble, and expense they cause, but even lacerates the parental heart with the keenest pangs when death tears parents and children asunder. It renders children the richest treasure that parents possess; an object for which they willingly labour, sacrifice, and suffer more than for all others. It sweetens their toils by day, and their watchfulness by night. Scarcely any loss equals that of children. But why? Let the amount of brain allotted to this faculty, especially in *mothers*, answer.

The primary distinctive function of this organ is PARENTAL LOVE—attachment to one's own children; and the more helpless the child, the more vigorous its action. It also extends to grandchildren, and the children of others; yet its power is far less towards them than towards one's own children. None but parents can ever know the genuine *feelings* of a parent's heart. Love of children is still further heightened by their being born of a wife, or begotten by a husband, whom we dearly love. Hence children are regarded as "the dear pledges of connubial love," because Parental Love is located by the side of Connubial Love; so that the exercise of either naturally excites that of the other.\*

The duties and relations of mothers to their children require a much stronger development of this faculty in woman than in man. Accordingly, it is much larger in females than in males. This increased size of the organ, and greater power of feeling in woman, and their adaptation to the far greater demand made upon her by her offspring, not only evince the truth of Phrenology, by showing it to harmonise with nature, but show that upon *her* devolve more of the nursing, training, and early education of children, than upon man. They peculiarly adapt women to develop the minds and train the feelings of children; and hence teachers of little children should always be *females*. Woman's delicacy of feeling and quickness of perception; her tenderness and willingness to do and to suffer; her intuitive knowledge of the little wants of children; her gentleness and playfulness peculiarly adapt her to expand the tender germ of their intellect; to train their feelings, and to instill into their susceptible hearts the first principles of moral rectitude; to cultivate benevolence and piety; to develop their affections, and to start the youthful traveller in the paths of virtue and intelligence.

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\* This analysis renders the inference clear and forcible that parents should nurse and educate their own children. What end in life is more important? Is it not infinitely more so than making money, or acquiring fame or office? If parents cannot do all they desire, and yet find time to care for and educate their children, let them hire the other things done, while *they themselves*, not oversee, but actually train and educate their own children. If they do not know enough, or if they cannot afford the time, they are bound, by the most sacred obligations of our nature, not to *become* parents. Getting children nursed out; sending them to school just to be rid of them; employing "wet nurses," and pretending to be too great a lady to nurse or tend one's own children, is a breach of nature's laws, and will inevitably incur the consequent penalties. Strange! that mothers will ruin their children, and violate their natures, just to be fashionable. Let those who cannot get their children taken care of and educated count this their gain, and those who employ low, ignorant, or vicious nurses—a practice as common as it is reprehensible—bear in mind the principle brought to view in the text, and also remember that these grovelling and often immoral associations are sure to pollute their children. But more of this in my work on "Phrenology applied to Education and Self-Improvement," in which mothers are presented with a recipe for finding time to educate their own children.

The great development of this organ in woman, rendering her principal duty her greatest pleasure, is a beautiful instance of Divine wisdom and benevolence. But this delightful task conceded by all to woman during *infancy* is too soon wrested from her hands. Mothers should be their children's chief instructors. Happy would it be for families, happy for society, if woman were to devote herself more exclusively to these duties. To you, young ladies—ye future mothers of our race—do we look for the faithful performance of this momentous duty. You are to form the intellectual and moral character of our race, and should prepare yourselves accordingly. Is it right, then—does it comport with this great end of your being—that your time should be spent in following the fashions, in acquiring the “graces” (as this fashionable foolery is called), or in fashionable boarding schools, where not a thing is thought of appertaining to a preparation for becoming wives and mothers? Before you think of receiving a single attention from a gentleman, see to it, I beseech you, for *his* sake, for your *own* sake, for the sake of your *offspring*, that you fit yourselves to develop all the *physical*, the *moral*, and the *intellectual* capacities of children.

This powerful development in woman renders it evident that the primary object of female education should be to fit young ladies for the station of *wives* and *mothers*. But more will be seen in reference to female education in another portion of the work.

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#### ADHESIVENESS.

*Friendship—the SOCIAL feeling—love of society—desire and ability to form attachments, congregate, associate, visit, and entertain friends, &c.*

If man had been created a lonely, unsocial, solitary being, nearly half his faculties, having nothing to excite them to action, would have lain dormant, and the remainder would have been but feebly exercised. The activity of a faculty in *one* naturally excites the same faculty in those around him. Hence, without the element of Friendship to bring mankind together into associations, neighbourhoods, families, &c., they could have had no opportunity for the exercise of Language, Ambition, Imitation, and many other faculties, and but little opportunity for that of Kindness, Justice, &c.; and all the remainder would have been far less efficient and pleasurable than now. Without this arrangement, co-partnerships, and those public and private works which require the combined labour and resources of more than one individual for their completion, would have remained unknown, and the selfish propensities have rendered all men Ishmaelites—turning every man's hand against his neighbour, rendering each most hateful to all; kindling rising jealousies, animosities, &c., into burning flames; and for ever blotting out the pleasant smile of glowing friendship, the cordial greeting of old associates, and that silent flow of perpetual happiness which springs from being in the company of those we like.

The *young* form attachments much more readily than those who are older, partly because the latter become hardened by frequent disappointments in finding supposed friends unfaithful, and partly because they have been longer separated from the friends of their youth. This blunting of the fine glowing feelings of friendship is certainly most unfortunate. Friendship should be regarded as *most sacred*, and never to be trifled with. We should do almost anything sooner than violate this feeling. Friends should bear and forbear much, at least, until they are *certain* that a supposed injury or unjust remark was *premeditated*. Then, when friendship is thus violated, we should think no more of our former friend, not even enough to hate him. Dwell not upon the injuries done to you; banish both them and the traitor from your mind, and let him be to you as though you had never known him. Dwelling upon



broken faith only still farther wounds and blunts the feeling of genuine friendship. Never *form* friendships where there is much danger of their being broken, and never break them unless the occasion is most aggravating and intentionally given. Let friends try to make up *little* differences as soon as possible.\*

These remarks apply with redoubled power to members of the same family. Let parents cultivate affection for one another in their children, and let brothers and sisters separate as little as possible, corresponding much, and, if possible, never allow a breach to be made in their attachments. Add continually new fuel to the old fire of family friendship. Let the right of *hospitality* be extended more often than it now is, and let friends entertain friends around the family board as often as possible, instead of allowing them to eat their unsocial fare at the public hotel. We have too little of the good old Yankee custom of "*Cousining*," and of English hospitality, and spend far too little time in making and receiving *social visits*. These *formal, polite* calls are perfect nuisances. They are to friendship what the smut is to the grain—poisonous. True friendship knows no *formality*.

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### UNION FOR LIFE.

There is little doubt of the existence of another faculty, located between Adhesiveness and Amativeness, which disposes husbands and wives in whom it is *large* and *active* to be *always together*. The absence of their companion, even for an hour, is quite painful. They feel as though the time spent away from them was so much of their existence lost. It is developed before Amativeness appears, and hence this Union is often formed in childhood. It purifies and refines the sentiment of love; desires to caress and be caressed; and is the soul and centre of connubial love; creating that *union*, that *oneness* of feeling, that harmony of spirit, and that *flowing together* of soul, which constitute true conjugal affection. It is very reluctant to fasten upon more than one, and that one the first love.

I have seen several striking proofs and illustrations of the existence of this faculty, and the location of its organ. I know a lady in whom both are marked, who, whenever her husband is about to leave her for a few days, feels an acute pain in that organ. When she pointed out the location of this pain, and stated that it always accompanied the absence of her husband, I saw that it belonged to neither Adhesiveness nor Amativeness, but was located *between* the two. As the intensity of the pain rendered this matter certain, I surmised the existence of another organ, and, two years afterwards, found it confirmed by observations made in France.

It is much larger and more active in woman than in man, which causes and accounts for the far greater power and intensity of woman's love than that of man's.

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### INHABITIVENESS :

*Or, love of HOME, and the DOMICILE of both childhood and after-life; attachment to the PLACE where one lives or has lived; unwillingness to change it; desire to locate and remain permanently, in one habitation, and to OWN and IMPROVE a homestead—Patriotism.*

Home, home! sweet, sweet home!  
There's no place like home.

The advantages of having a permanent HOME, and the evils and losses consequent upon *changing* it,† are both very great: "Three moves," it is said,

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\* I have seen a young man rendered crazy, and thrown into a perfect frenzy of excitement by being imposed upon by a supposed friend—one, too, of his own sex. He appeared very much like those who have been recently disappointed in love.

† It is estimated that the expense of moving on the 1st of May, in the city of New York alone, exceeds twenty-five thousand dollars

"are as bad as a fire." Those who have homes of their *own*, be they ever so homely, are comparatively rich. They feel that no crusty landlord can turn them homeless into the streets, or sell their furniture at an auction for rent. Rent-days come and go unheeded, and the domestic affections have full scope for delightful exercise. Every married man is bound by this *inhabitive* law of his nature, as well as in duty to his family, to *own* a house and garden plot; and every wife is bound by the same law and duty to render that home as agreeable as possible.

The prevalent practice of *renting* houses violates this law and arrangement of man's domestic nature, and must necessarily produce evil to both owner and tenant. This is established by facts as well as theory; for what observer is not at once struck with the general fact that landlords improve their houses only to raise their rents, and charge enormously for every additional convenience; and that tenants will not make improvements because they intend soon to "move." All permanent improvements, such as fertilising or beautifying a garden, rearing fruit trees of various kinds, setting out a shrubbery, &c., raising stock, and getting conveniences and comforts for a family around you, require a succession of years; tenants, therefore, are compelled to do without them. If they wish fruit or vegetables, instead of plucking the fully ripe cherry, the delicious peach or pear, and the ever-varying fruits of the seasons, and sitting down quietly to enjoy them "under their own vine and fig-tree," by which their relish would be doubled, they are obliged to take their up hard-earned money, pay a four-fold price in the market, and, after all, take with articles that are green, withered, or stale; it being the universal custom to pluck fruit for the market before it is ripe, so that it may keep the longer, and not spoil by being transported. Who has not tasted the difference in eatables fresh from the garden, compared with those purchased in the market? Again: market men, being generally too poor to own land, are obliged to demand high prices in order to cover exorbitant rents, which furnishes an excuse for those who raise things for market on their own land to do the same. This, together with the market being forestalled by hucksters and speculators, increases the price of provisions so enormously that one dollar earned by those who *own* a house and a bit of land brings more than five dollars earned by city tenants. What consummate folly, then, to emigrate from the country to cities because a dollar a week more wages may be given, when the increased expenses of rent, fuel, food, &c., are perhaps five times more than the additional earnings. This reveals one cause of the greater degree of poverty, privation, and suffering in the city than in the country.

Again: city tenants usually buy a small quantity at a time, such as a pound of meat, half a pound of sugar, a pint of milk, a halfpenny bunch of onions and radishes, an ounce of tea, a pound of flour, &c., and hence are obliged to pay double price, or at least all the difference between the wholesale and the retail prices, besides the increased price of articles in the city above that of the country; while those who *own* land usually raise, or else lay in, their year's supply of provisions at the time of their production, and at a comparatively trifling cost. To this renting system mainly do we owe the exorbitant, but merely nominal price of "city property," the rents and the rise of the property combining to increase them; whereas were there but few tenants, the city prices would sink far below those demanded for country property, from which a living could be obtained. This *renting* system is one of the most efficient causes of "hard times" and distressing poverty. For a small room, too contracted to yield scarcely a comfort, and often in the basement or attic, many tenants are compelled to pay their hard-earned dollar every Saturday night, or be turned into the streets. This system has infused its baneful influences into nearly all the arrangements and relations of life. Indeed, so great and multifarious have its evils become, that they will compel men ere long to abandon it, and *buy* a poorer house in preference to *renting* a

better one. Rents will then fall, and landlords be losers. To own the house you *live* in is enough ; owning more will injure all concerned.

This faculty and its combinations plainly indicate that the prevalent practice of "boarding" is not the most profitable or agreeable. The *social* feelings cannot find gratification or reciprocation. Besides, boarders frequently waste more than is necessary, so that boarding creates a selfish feeling where all should be harmony and friendship. And then to be sick in a boarding-house or tavern ! Let those who know its horrors bear witness. To be sick *at home*, with all the attentions that affection can bestow, is bad enough ; but to be sick among *strangers*, and have only such attention as *money* can procure, is the climax of wretchedness. Let young men whose circumstances compel them to board, choose some *good* family, and *identify* themselves with it, and cultivate the *social affections*, and then change the boarding-house for a home as soon as possible. Nor should young men leave their father's house as soon as they generally do : they should, in most cases, stay at home till they get homes of their own.

I have always observed that children who have lived in one dwelling, and especially on a farm, till they were fifteen, have this organ large, whereas it is small in those who have lived in *different* places during childhood. This says to parents, in the language of nature, "Make as few moves as possible, and generally keep your children *at home*."

It is also large in most farmers, and, with Approbativeness large, gives a kind of pride in having a *nice* farm, house, furniture, garden, &c., together with a disposition to *improve* one's residence. The lower portion of Parental love is supposed to create a fondness for pets, stock, and the young and tender of animals, with a disposition to improve their breed ; and the union of the two increases the charms of husbandry and farming. No life is so independent, so free from care, so healthy, or so favourable either to virtue or intellectual pursuits. If our farmers, instead of labouring with all their might to become *rich*, would labour just enough to earn a livelihood, and devote the remainder of their time to reading and study, no class of people on earth would be so happy, or moral, or talented. To leave the farm for the city or counting-room, evinces a species of folly bordering on derangement, or else sheer ignorance of the road to happiness. The best heads I have examined have been those of farmers ; and a majority of our great and good men will be found to have once followed the plough and reaped the harvest.

This organ also is supposed to be double : the inner portion creating attachment to the home of childhood, to the *family* domicile, to the stones, trees, and place of youth, and delighting to revisit them ; the outer creating patriotism and love of the more recent homestead, with unwillingness to "*move*."

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### THE COMBINATIONS OF THE SOCIAL FACULTIES.

Though the *individual* action of these social faculties is powerful, and productive of intense enjoyment or suffering, their *combinations* are much *more* so. Their *combinations* also account for the infinite diversity of tastes in the selection of friends and companions, and in the management of children.

Thus, those who have large Amativeness, combined with large Adhesiveness, not only love the other sex as such, but contract a strong *friendship* for them, and make them their warmest and most confidential *friends* ; and, with the addition of large "Union for Life," experience that *love* for some congenial spirit, some kindred soul, which makes "of twain one flesh," and perfectly unites "two willing hearts." Persons thus constituted are tender and affectionate as companions ; will mingle pure friendship with devoted love ; "cannot flourish alone," but will be inclined to love and marry young ; will invest the beloved one with almost angelic purity and perfection ; magnify their mental and moral charms, and overlook their defects ; feel happy in their company, but miserable without it ; freely unbosom every feeling ; communicate and

share every pain and pleasure ; and have the whole current of the other faculties enlisted in their behalf. With large Ideality and the mental temperament added, they will experience a purity, a devotion, a fervour, an elevation, and intensity, and even *ecstasy* of love well nigh romantic, especially the *first* love. They fasten upon *mental* and *moral*, instead of *personal* charms, or rather blend the two. They can fall in love only with one who combines good looks with refinement, good manners, and much delicacy of feeling ; will be soon disgusted with what is improper, not in good taste, coarse, or vulgar in the person, dress, manners, conversation, &c., of the sex, but exceedingly pleased with the opposite qualities ; will express love in a refined, delicate, and acceptable manner ; be fond of poetry, tales, romances, and the sentimental. With Parental Love also large, they will be eminently qualified to enjoy the domestic relations of companions and parents ; be as happy in the family relations as they can be in any other, and stay from home only when compelled. When Inhabitiveness is large, they will travel half the night to be at home the other half ; sleep poorly from home ; and remove only when they cannot well avoid it. With large Firmness and Conscientiousness added to this combination, they will be constant, and keep the marriage relations inviolate, regarding them as the most sacred feelings of our nature. With large Combativeness added, they will defend the object loved with much spirit, and indignantly resent scandals or indignities offered them. With large Approbativeness added, they will hear them praised with delight, and greatly enjoy their approval, but be cut to the heart by their reproaches. If moderate or small Self-esteem, and large Ideality, and only average or full Conscientiousness and Causality be added, they will be too ready to follow the fashions demanded by the other sex, and too sensitive to their censure—a combination too common in women. With large Secretiveness and Cautiousness, they will *feel* much more affection than is expressed, appearing indifferent, especially at first, or till the other party is committed ; and perhaps not bring matters to a direct issue till too late ; but with Secretiveness only moderate or small, they will throw wide open the portal of the heart ; freely showing in every look, word, and action all the love they feel. With Firmness, Self-esteem, and Friendship all large, they will not be subdued by love, however powerful, nor be humble or servile in this matter ; but bear its interruption with fortitude ; and will be the reverse when Self-esteem, Firmness, and Combativeness are only moderate or average. With Causality and the head only moderate or average in size, the vital or mental temperament predominant, and Adhesiveness, Approbativeness and Ideality large or very large, they will prefer the company of the fashionable, dressy, gay, superficial, witty, showy, &c., of the other sex, and love to indulge in small talk with them, and love and marry those of this class. With the moral faculties predominant, they will choose the virtuous, moral, devout, and religious for friends and companions. With the intellectual organs large or very large, they can admire and love only those who are intellectual, sensible, and literary. They will almost adore such, but be disgusted with the opposite class. With the vital or vital motive temperament predominant, Ideality large or very large, and Causality and Conscientiousness only average or moderate, they will be less particular as to their moral than their personal charms ; will love the pretty face and figure last seen ; and have an attachment by no means exclusive ; courting many, rather than being satisfied with individual attachment, and inclined to the merely animal gratification of Amativeness ; and with large Language and Mirthfulness added, will delight to joke with and about the other sex ; often be indelicate, fond of hearing if not relating improper anecdotes about them, and of seeing vulgar prints, &c. ; and with large Tune also added, be prone to sing objectionable songs, if not inclined to revelry and profligacy ; and extremely liable to pervert Amativeness. With large Acquisitiveness added, they will quite as soon marry for money as for true love, especially after the first attachment has been interrupted, &c.

But those in whom Amativeness is only moderate or small, the mental temperament predominant, and the moral faculties more active than the propensities, will not love or marry young, but will have more friendship and pure platonic affection than animal feeling, &c.

These combinations are given mainly as a sample of the others, and also to illustrate the law of love, and account for different matrimonial tastes. Additional ones will be found in the author's work on Phrenology.

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### LOCATION OF THE SOCIAL ORGANS.

The social organs are located together, in a kind of *family group*, in the back and lower portions of the head, behind the ears. They predominate in the head of an affectionate female. This is the usual form of the female head, and the social faculties constitute the predominant quality of the female character; though Amativeness is usually smaller in women than in men. These organs, when very large and active, elongate the head backwards, behind the ears, and their activity causes the head to recline directly back towards the spine. Those who have a slim neck, and a head projecting behind the ears, but narrow at its junction at the back of the neck, are susceptible of much purity and tenderness of love, which will be founded in friendship and union of soul more than in animal passion; but those whose heads are broad between the ears at their union with the back of the neck, and the back parts of whose heads do not project much behind the neck, or are nearly on a line with it, will have more animal passion than pure affection. Though a full development of Amativeness is important in a companion, yet large Friendship and high moral faculties are quite as much so.

In this family group there may be two or more additional organs, one of which is doubtless located between Friendship and the upper part of Parental Love, and creates attachment to *keepsakes*, or gifts presented by friends; to old household furniture which has descended from parents to children; also to things long used. Another is probably located at the sides of Parental Love, which experiences the emotion of FILIAL LOVE, causing children to love, obey, and wait upon their parents; to sit at the feet of age and experience, and learn lessons of wisdom, or listen to their stories, follow their counsels, especially those of parents; and to cherish for parents that filial affection which delights to serve, nurse, love, and support them, and weeps over their departed spirits.

Let parents assiduously endeavour to cultivate filial affection in their children, and avoid everything calculated to wound or weaken it; and let children love their parents and cherish a disposition to serve them, so that when they become feeble or helpless, *Filial Love* may delight to *return* those unnumbered attentions received in childhood at the hands of *Parental Love*! How wise, how admirable this Parental Love! How beautiful, how perfect this Filial Attachment! The former giving parents the highest pleasure in nursing and providing for their children; and the latter, giving children equal pleasure in bestowing the same kind of attentions upon their parents; the former, softening the pillow of infancy, and supplying its wants; the latter, softening the pillow of age, and alleviating the infirmities of dotage, kindly proffering those attentions which Filial Love alone can bestow. What quality in youth is more praiseworthy, what recommendation for virtue or goodness more unequivocal, than devoted attachment to parents? How can vice or immorality dwell in a bosom filled with love and devotedness to an aged needy parent? What is more meritorious, or what yields a richer harvest of happiness than toiling to support an infirm parent?

But, on the other hand, how ungrateful, how utterly depraved, how superlatively wicked, must be those who neglect this pleasing duty of taking care of their parents, or who let them want; or, above all, who desire their death, or

hasten it by neglect or abuse, in order the sooner to inherit their patrimony ! Give me the glorious privilege of cherishing my dearly beloved parents ; and, at last, when their days are all numbered, let them breathe their last in my arms, as I myself desire to do in those of my children ; and let this family feeling be cherished from generation to generation.

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### AMOUNT OF BRAIN ALLOTTED TO THE SOCIAL ORGANS.

Nothing exhibits the power and energy of these social faculties, or the importance of their proper exercise in a more striking light than the *great amount of brain allotted to their organs*, which averages from one-twelfth to one-sixth of the whole. Do not, on any account, marry one, the back of whose head indicates predominant Amativeness. Still, an *ample* development behind the ears is a primary and most important requisite in a companion and parent. Those in whom it is deficient will never enjoy a family, nor render it happy.

It is a well established principle of phrenology that, activity and other things being equal, the larger the amount of brain called into action, the greater will be the enjoyment or suffering experienced. This, in part, explains the immense power of the social feelings over the happiness and misery of mankind. And this power is greatly augmented by their *location*, or physiological relation to the other portions of the brain—it being directly calculated to throw much of the latter into a state analogous to their own. Hence the *neutral* action of the social feelings tends to quiet all the others, which is highly promotive of virtue and enjoyment ; but their *fevered* or *inflamed* condition tends to inflame the whole brain, especially the *animal propensities*, among which they are located, which causes vice and misery. This inflammation renders those recently disappointed in love irritable, fault-finding, and displeased with everything and everybody, and unfit for study or the advantageous exercise of intellect ; because their whole brain and mind are thrown into violent commotion, and all their animal propensities are highly excited. Nothing excites Combativeness and Destructiveness to so high a pitch of indignation, if not revenge, as to be cut out or “crossed in love ;” or to have a supposed friend prove untrue ; or to lose a child, companion, or friend ; or any other interruption of the social feelings.

Why are duels fought, and more animosities engendered, by interruptions in love, and consequent jealousy, than by any other cause ? Let the juxtaposition of the organs of Love and Resistance answer. Even the moral and religious organs are greatly disturbed thereby. On the other hand, many readers can bear experimental witness to that peace of mind, that delightful composure, that happy state of feeling which follows marriage, or the final and favourable adjustment of reciprocated love. These, and kindred states of mind, are caused, and beautifully accounted for, by this principle.

And what is more, the facility and power with which these faculties *combine*, individually and collectively, with each and all the other faculties, is greater than that with which any other classes combine. This greatly augments their power of exciting all the other faculties to the highest pitch of pleasurable or painful action, accordingly as they are properly or improperly placed ; so that their condition reciprocally affects, if it does not go far actually to control, that of the balance of the brain, and with it, the state of the mind ; and they proportionally hold the keys of our happiness or misery.

To illustrate : Though the meal eaten alone may gratify appetite, yet, even the pleasures of the palate are greatly augmented by the exquisite satisfaction derived from our own table surrounded by our family and friends. This

increased enjoyment promotes digestion and health, which redoubles all our enjoyments, besides prolonging life.\*

Combativeness, or the element of resistance, is called into more powerful action by indignities offered to one's family, than by being cheated, or reproached, or by any other imposition that can be practised upon one's self. What husband or wife will not resent an indignity offered to a wife or daughter sooner than one offered to himself? Our heroic fathers, actuated mainly by love of their families, and to protect their firesides, braved every danger, endured every privation, and conquered the conquerors of the world. To this combination mainly do we owe our ever glorious independence. This principle holds equally true of Destructiveness and Secretiveness.

Marriage doubles and quadruples the energy of Acquisitiveness. Many young men, who, before becoming husbands and fathers, are prodigal of their time and lavish of their money, speuding much of both in what injures instead of benefits them, after marriage save everything, and practice rigid economy, besides converting every hour to some useful purpose. The best recipe for becoming wealthy is to marry, not a rich, but a *frugal* companion. Marriage renders a home necessary, and greatly increases efforts to provide one.

Cautiousness is agreeably and continually excited by the cares of a family—by watching over children, and providing for their present and prospective wants; whilst Self-esteem affords parents as much patriarchal pleasure in governing their household as it does a king in ruling his kingdom. The agreeable exercise of Acquisitiveness greatly increases this delight in those who have to say that they *own* a house, and land enough to live upon; so that they are independent, can defy the banks and hard times, and owe no man anything.

Approbateness, or love of the good opinion of others, in the unmarried is confined mainly to *themselves*; that of parents reverts to their children. The single lady is pleased with marks of commendation bestowed upon her dress, appearance, attainments, and things appertaining to *herself*; while the mother is doubly delighted with praises bestowed upon her darling *child*, taking more pride in adorning its person and improving its mind, than she ever took in regard to herself. Praises bestowed upon *it* sound more sweetly in her ear, and awaken more thrilling emotion in her bosom, than those bestowed upon herself ever had the power of doing; because the latter strike but the single chord of Approbateness, while praises bestowed upon the *child* sweep harmoniously the *two* chords of Approbateness and Parental Love combined, thereby more than doubling her pleasure, and opening the shortest and surest way of access to the goodwill of parents. What but this powerful combination, uncontrolled, could produce that excessive and almost sickening parental vanity which many parents lavish upon their children, or account for their conceit that *their* children excel those of most others, of which the majority of parents are guilty?

The family affords Conscientiousness ample scope for delightful exercise in dealing out even-handed *justice* to all, and in implanting in the tender minds of their children lessons of *duty* and the principles of *right*; while Hope feasts itself upon the promises their expanding intellects afford of dawning talents,

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\* An extensive census taken in England, for the purpose of comparing the ages of a specified number of married persons of both sexes with the same number of those who were single, shows that 73 married men attain the age of forty, while 41 bachelors attain the same age. As age advances, the difference is still more striking. At sixty, there are 98 married men alive to only 22 unmarried, or four-and-a-half to one. At seventy, there are only 11 bachelors alive, to 27 married men, or nearly three to one; and at ninety, there are 9 married men to three bachelors. Nearly the same rule holds good with regard to the female sex. Married women, at the age of thirty, on an average, may expect to live thirty-six years longer, but the unmarried only thirty (that is, one-fifth less). Of those who attain the age of forty-five, there are 72 married women alive for 52 single ladies, the difference being nearly one-third. Beyond all doubt there is something in marriage highly calculated, in itself, both to prolong life, and to render that life more peaceful and happy.

virtue, and honour—transporting parental love in view of the brightening prospects of their coming prosperity, as well as of the enjoyments yet to be realised in the family circle.

To him who delights in prayer and praise to God, the exercise of Veneration may yield a rich harvest of pure and exalted pleasure; but it is when offering the morning and evening sacrifice of prayer and thanksgiving around the FAMILY altar—when praying with the family for blessings *upon* the family—that this faculty is kindled up to its most devout and fervent action; melting the heart, purifying the soul, and reforming the conduct. How much more gratifying to go to church or chapel in *company* than alone! This increase of pleasure has its origin in the *combination* of Veneration and these Social Faculties. Marvellousness, also, delights to commit and commend those objects of affection to the merciful protection and gracious guidance of an all-wise and over-ruling Providence.

Though the exercise of Benevolence towards strangers, or even brutes, gives a great amount of real pleasure, yet we feel double gratification in conferring favours upon those we love. The family presents *many* an opportunity for doing little acts of kindness, where the world at large affords *one*. Indeed, it enables us to be doing and receiving an almost *continued succession* of kind offices, perhaps trifling in themselves, but great in their aggregate, and highly promotive of reciprocal good feeling. Children can gratify Imitation by taking pattern from their beloved and venerated parents; while the wife can indulge her Ideality and Order in keeping the house and children neat, tidy, and clean, and in cultivating vines, flowers, &c.\* The family also affords the wife an admirable opportunity to exercise her Constructiveness—which is called into action in nearly everything done with the hands—in making and repairing garments and conveniences for those she loves, and at the same time endearing herself to her husband by gratifying his Acquisitiveness, in saving many a tailor's bill, &c.; while *he* will find *his* Constructiveness agreeably exercised in fixing up things, and making conveniences about the house, repairing a door, inserting a broken glass, &c, as well as in the daily labour of his hands in their support.

With all the freedom allowed in the family circle, Mirthfulness can let fly its sprightly jokes, its agreeable sallies of wit, and its tart repartees, without the least fear of giving offence, or any of that studied guardedness or artificial precision required among others. The Language and Eventuality of parents and grandparents find frequent and delightful exercise in recounting to their young and eager listeners the incidents of bygone days, and the history and genealogy of their ancestors, and in telling or reading to them stories calculated to strengthen their memories and improve their morals; while the children, in return, also indulge *their* Language in their incessant prattle.

It is in the family circle, also, that Tune can exert its powerful charms by striking up a cheerful lay, and giving expression to buoyant, elastic feeling in unreserved strains of thrilling melody and pathos. How exalted a source of pleasure is music! How powerful an instrument of good or evil—of moral purity or debasement—of subduing unruly passions and harmonising all the discordant faculties! To enliven and make cheerful the *home*; to throw a charm around the *fireside*; to dispel the vexations and disappointments of unpropitious business, and make a family happy, is its peculiar prerogative. What will quell the turbulent temper of a child, or assuage the irritability of a husband, or soothe his depressed spirits as he returns home disappointed, or

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\* Every good wife will gladly improve every opportunity to adorn her house, especially with *natural* charms, and render it as pleasant and agreeable as possible. This seems to be one important and leading duty, or rather pleasure, of a wife and mother; and yet that one is too much neglected. Let every wife have her flower garden, her arbour, her plants, and shrubbery, and by throwing these little charms and niceties around "home" which the hand and the taste of woman alone can impart, give to it a peculiar and pleasant attraction. But more on this point elsewhere.



weary, or angry, from the business of the day, so soon as to hear his wife or daughter strike up a cheerful lay, or play a favourite tune? Its power in this respect is underrated, and too seldom applied, and *modern* music is often too artificial to awaken or divert the feelings.\*

How vast the sum total of that quiet stream of the purest, sweetest enjoyments flowing almost continually from the affectionate and happy family circle, with their comfortable fire blazing before them, and the means at hand of gratifying every returning want; including their agreeable conversation, pouring incessantly from every mouth; the pleasant chit-chat of the table and parlour, and that ceaseless prattle provoked by the domestic feelings and family arrangements!

Here, also, Order has a wide field for delightful exercise, by having a place for everything, and everything in its place, so as to have things forthcoming at a moment's call; and Time, by having a time for everything, and everything in its season; meals punctual, and all at their meals at the same time, &c. Here, too, Causality and the Social Faculties combine with Benevolence in giving advice, and contriving and arranging matters for their comfort; with Language or Comparison, in explaining their conclusions, and in asking and answering questions; with Acquisitiveness, in devising and executing ways and means of augmenting their estate; with Cautiousness, in foreseeing danger and providing against it, and securing their good; and so of other combinations. In short, what motive equals that of a needy or dependent family for putting the Causality of parents upon the rack to invent a constant succession of devices for their relief—to sharpen up and call forth every power of the intellect, every energy of the body, every capacity of man, as well as to stir up every fountain of feeling in his soul?

But this delightful picture is often reversed; and then how changed the scene! How terrible when Combativeuess, instead of *defending* the family group, is arrayed *against* it, and, calling Self-Esteem to its assistance, tyrannises over it, and rules with a rod of iron—when contention supplants protection, and angry looks dispel the smiles of affection—when their Approbativeness, instead of being gratified by commendation, is mortified by having their faults or follies exposed, or wounded by reproach—when Conscientiousness is offended by their unprincipled immoralities—when a want of Order or Punctuality in either incenses the Combativeuess of the others—when Language, instead of engaging in agreeable conversation, is employed to mortify Approbativeness by administering reproaches or hurling reproof—when miserly Acquisitiveness, instead of making money to procure comforts for the family, arrays Combativeuess against the family because they are expensive—in short, when the other faculties, instead of uniting with the Social Affections to make home a paradise and the family happy, are brought into collision with them, and make home a pandemonium—a real family hell—their sufferings are intolerable, and their warfare is perpetual, because the family relations bring them and keep them in constant contest, the most direct and powerful. Then it is that the stream of life is poisoned at its *fountain-head*, and made to send forth bitter waters continually. The very quintessence of misery consists in this collision, this warring of the faculties. As in the case of magnetic bodies, the *nearer* their contact the more powerful their attraction or *repulsion*, so the family relations bring every point in the character of each into direct unison with those of the others, or in flat opposition to them.

With great *emphasis*, therefore, I repeat this main proposition, that the influences of the domestic *organs* on the rest of the brain, and of the social *faculties* on the other mental powers, are so direct and reciprocal, that their proper or improper exercise—their peaceful or disturbed action—throws the

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\* See the author's analysis of Tune, and criticisms on modern fashionable music, in his work on "Phrenology applied to Education and Self-Improvement."

whole brain and mind into a similar condition, forming a kind of *centre* of virtue and happiness, or of vice and misery. Is a man but happy in the *domestic* relations, he is happy everywhere, in spite of all the evils that can assail him. What though the storms of adversity beat violently upon his head, and misfortunes thicken upon him; though the winds waft tidings of evil; though scandal and reproach assail him from without, and sickness appears within; though riches take to themselves wings and fly away, and his plans and prospects prove abortive; if he but live affectionately with his wife, and see his children growing up to love and bless him, he is still happy. His joys are beyond the reach of misfortune.

But let a man be *miserable* at home; let his wife prove unfaithful or unsocial, and his children become a disgrace to him; and, though the breezes are wafting to him the wealth of the Indies—though the trumpet of fame is sounding his name throughout Christendom—though the sunshine of prosperity beams on his pathway with full effulgence, and success everywhere attends him—still a canker-worm is preying on his vitals—he is *most wretched*. His joys are rotten at the core; his life is the dregs of bitterness. It is not in the power of either poverty, reproach, or misfortune to blast, or even embitter the fruits of domestic felicity; while it is in the power of domestic discord or unhappiness to poison every sweet that either riches, or fame, or learning can bestow, and to mar even the consolations of religion. Let the blasting winds of adversity blow upon me a perfect hurricane of trouble; let the afflictions of even Job be repeated upon me—only let me live in the bosom of my family, and let my wife and children be spared to greet me with the smiles and the kisses of affection, and my cup of pleasure is well nigh full.

And if these things be true of *man*, how much more so of *WOMAN*, whose *home* is the family, whose heart is tenderness, and whose very *being* is conjugal and maternal love! In her the blighted affections occasion the most bitter agony beneath the sun! Indeed, words cannot express the amount either of the happiness which the social affections are capable of pouring into the human bosom, or the amount of sighs, and woes, and bitter sorrow with which they have the power to curse man. None but those who have tasted these things can know the full force of these remarks.

In proportion, therefore, to the power of these social faculties over the weal or woe of man is the importance of understanding and obeying the laws of their action; that is, of properly placing and regulating our social affections. If their exercise were productive of *good only*, it would be entirely proper for young people to fall in love and marry as they often now do—anyhow, just as it happens. It would also be proper for parents to make *pecuniary* matches. But as this is *not* the case, it becomes all candidates for marriage—nay, it is their *duty*, to place and exercise their social feelings with care. But many experience all the curses they are capable of inflicting—curses proportionate to the blessings they are capable of conferring. *Why* is this? Is it *unavoidable*? This would be charging *God* foolishly, and blaming him for our own folly and stupidity. Cannot all be happy in the domestic relations? Is not happiness here, like happiness everywhere else, the result of the action of certain fixed and invariable laws? And is not this equally the case in regard to domestic *misery*? By applying to yourself causes productive of happiness, you will be happy; but by applying opposite causes, you have opposite results. And these causes are mostly in your own hands, so that all have it in their power to say whether they will enjoy domestic life, or endure it, or have a bitter-sweet.

The question then returns with redoubled force—HOW can we so place and regulate our social affections as to secure all the blessings they are designed and adapted to yield? and HOW avoid all the evils they are capable of inflicting? Phrenology kindly replies. It unfolds the laws of man's social nature, on the observance or violation of which these momentous results depend. It

even goes farther—it shows us how to obey them. Mark well its teachings, observe and follow its directions, and you will drink in the joys designed by nature to flow from married life.

In order to marry so as to be happy in the domestic relations, we must first understand the precise thing to be done, and then the *means* of doing it. That thing is, to secure *Connubial Love*, which consists in the reciprocal exercise of the social faculties of two persons of opposite sexes, in harmony with all their other faculties. Union of soul, harmony of views and sentiments, congeniality of tastes and feelings, and a blending of the natures of both, so as to make 'twain one flesh,' is the *end* to be obtained. This is *LOVE*—that wonderful element of our nature which made Eleanor of Castile jeopardise her own life to save that of her beloved husband, Edward I., and suck the poison from his otherwise fatal wound; which induced Gertrude Van der Wart to bid defiance to the ribaldry of the soldiers, and stand resolutely by the side of her racked and mangled husband during the whole of an awfully tempestuous night, soothing him by her sympathies, and sustaining him by her fortitude, till the cruel rack ended his life and sufferings together; and which makes every fond wife and devoted husband willing, and even glad, to sacrifice their own ease and happiness, and rejoice in enduring toil, suffering, and self-denial, to relieve the sufferings and promote the happiness of their dearly-beloved companion.\*

Having seen precisely *what requires to be done* in order to enjoy married life, the question returns as to the *means* of doing it. They are brief and simple, but plain.

SELECT A COMPANION WHOSE PHRENOLOGICAL DEVELOPMENTS AND TEMPERAMENT RESEMBLE YOUR OWN.

That is, select some one whose feelings, desires, sentiments, object, tastes, intellectual and moral qualities, in all their *leading* elements, &c., *harmonise* with your own.† The fundamental law of both love and friendship is this: *We become attached to those whose qualities of intellect and feeling resemble our own.* The reason is, that as the proper exercise of every faculty gives pleasure, and as the active faculties of each excite the same faculties of the other, those whose objects, sentiments, and other qualities resemble our own, most powerfully excite, and thereby gratify our *own* organs, while ours at the same time *harmonise* with theirs, and thus give them the greatest amount of pleasure. Thus, if your Conscientiousness, or sense of *justice* be strong, the same faculty

\* There are two kinds of love—the one healthy, the other sickly; the one virtuous and elevating, the other questionable; the one strong and natural, and governed by judgment; the other, a greenhouse exotic, governing the intellect, springing up before its time, and bearing unripe, unhealthy fruit. Persons afflicted with this unnatural parasite are said to be "love-sick," and sick enough it sometimes makes its youthful victims. This kind of love will frequently be found described in novels, and its workings seen in young people in high life, improperly so called, for it afflicts those of a nervous temperament and sentimental cast of mind most grievously. Those who are above labour, who are too good to mingle with the middle classes, or engage in any useful occupation; who have little to do except attend balls and parties, to dress in the height of the fashion, thumb the piano, and such high-life occupations; those whose parents roll in luxury, or live in affluence; those boys and girls whose worth is neither in their heads nor hearts, but in their fathers' name and pockets, are most apt to be attacked by this "love-sickness." They are usually "smitten" with it at a party, or dance, or sail; they exchange kisses, &c., and conclude by proposing and accepting, and sending for the parson. This love-sick kind of feeling is much more prevalent in the city than in the country, and attacks its victims there much earlier, besides rendering them, if possible, still more soft and sickish there than elsewhere; and it is one of the principal causes of so many unhappy marriages.

The other kind of love appears in our working, substantial swains and dames, who think little and care less about love and matrimony till their physical powers are developed, their characters and judgments matured, and their intellects sufficiently unfolded to guide their love understandingly into the paths of domestic happiness.

† This rule is, as it should be, in direct hostility to a leading doctrine of Walker, who contends that *opposites* unite, whatever may be the ground of preferment or law of tastes in regard to merely *physical* qualities, which are of little account compared with those of mind and character. Phrenology recognises no such doctrine in regard to mental and moral preferences. The taste goes into this matter more deeply than the mere shape of the body, colour of the eyes or hair, &c. Both are correct. Like: and unlike qualities are both essential to highest love and matrimonial bliss, as well as to endowment of offspring.

in another will agreeably excite and gratify this organ in yourself, and thus give you pleasure ; but the want of moral principle in another violates your sense of right, and gives you pain, and this reversed or painful action of Conscientiousness excites your Resistance, Firmness, Intellect, Apprehension, and nearly all your other faculties *against* him.

As this principle of the reversed or painful action of the faculties bears with great force upon our conclusions, and will frequently be employed hereafter, a short digression is necessary in order to explain and illustrate it. Every faculty has both its natural and its reversed or painful action. Thus, the *natural* function of Benevolence is to feel that lively sympathy for distress which induces efforts to relieve it, whereas its reversed action is that keen anguish, that poignant grief, which the benevolent heart experiences on beholding distress which cannot be relieved. The natural function of Approbativeness is that pleasure felt when our laudable actions meet deserved commendation, but its reversed action is that shame, mortification, and chagrin caused by a consciousness of being disgraced. The natural function of Conscientiousness is that satisfaction derived from a consciousness that we have done *right*, but its reversed action produces the goadings and compunctions of a *guilty* conscience. Order is gratified by having a place for everything and everything in its place, but reversed by disorder and confusion. Size is gratified by proportion, but reversed and pained by disproportion. Ideality, in its natural action, is gratified by beholding the beautiful in nature or art, but pained and reversed by the vulgar or disgusting ; and so of the other faculties. And what is more, the reversed action of any faculty calls the other faculties into reversed action. Thus, reversed Conscientiousness reverses Cautiousness, which makes the "wicked flee when no man pursueth." Reversed Self-Esteem or wounded pride, reverses Combativeness and Adhesiveness ; converting the warmest friendship into the bitterest hatred ; and so of other reversals.

Let us apply this principle to the reversed action of the *Social* Faculties. Though Amativeness in each sex creates a predisposition in favour of the other, yet how much greater disgust, and even hatred and abhorrence, does virtuous woman feel towards the man who has insulted her, or who would rob her of her virtue, than she can ever feel towards one of her own ? No element of our nature is more powerful or inveterate than the reversed action of Amativeness and its combinations. Though Amativeness *alone* could never turn against the opposite sex, yet the *other* faculties may reverse it even against a husband or wife ; the loathing and disgust, the abhorrence and *hatred* engendered thereby, can never be told. And then the lingering misery of being chained for life to a loathed and hated husband or wife, and shut out from the embraces of those that *are* loved, can be known to those only who experience it. Over such a picture let the curtains of darkness be drawn for ever !

But to return to the *reason* why we should select companions whose developments accord substantially with our own. When Ideality is large in the one and small in the other, the former will be continually disgusted and offended with the coarseness and vulgarity of the latter, and the absence of taste and gentility, of refinement, personal neatness and sense of propriety ; while the latter, in turn, will be equally displeased with the former's attention to trifles, and preference of the ornamental to the useful. This disparity of tastes calls Combativeness into reversed action, and widens the breach made in their affections, till even Adhesiveness and Amativeness may become reversed, and both parties be rendered most wretched. But where Ideality is large in both, each will be continually delighted with the other's refinement of manners, delicacy of feeling, and admiration of the beautiful in nature and art ; which will redouble their love, enable each to administer pleasure to the other, and thus increase their nuptial happiness. What pleases one, will gratify both, and

what disgusts one, will offend both. On the other hand, when Ideality is deficient in both, each will be satisfied with home-made, common articles of dress, furniture, &c. ; the slovenliness of either, so far from offending, rather pleases, the other, and though they do not enjoy the pleasures flowing from the exercise of these faculty, yet neither of these will know their want of them.

Large Mirthfulness in the one, will throw out continual sallies of wit, which *small* Mirthfulness in the other, unable to comprehend or return, will call upon Combativeness to resent ; whereas large Mirthfulness would be gratified by such sallies, and even delight to return them.

If the husband has large Hope and deficient Cautiousness, and the wife large Cautiousness but deficient Hope, the husband, hoping everything and fearing nothing, will see only sunshine and prosperity before him, and be careless, continually plunging into new difficulties, and be utterly incapable of sympathising with, or soothing the gloomy cast of mind which afflicts his wife, and even be displeased with it ; while she will be continually dreading the effects of his imprudence, and reproving him for it, not only without any good effect, but with his marked displeasure. She, being timid, and frightened almost at her own shadow, will feel very much in want of some careful, judicious husband, in whose care she may feel safe, yet will *be*, in fact, in the hands of an imprudent husband, who, instead of keeping her out of danger, will be continually exposing her to it, and *doubly* frightening her with both real and imaginary dangers. *He* will be continually looking upon the *bright* side of every prospect ; *she* upon the *dark* side : *he* will never see a difficulty or danger ; *she* will see more than there are, and see nothing else. How can they love each other ? or, rather, how can they avoid mutual contention and fault-finding, and the consequent *reversal* of their social feelings ? But if each one is cautious in reference to the other, and both look at the same measures and prospects in the same light, this *similarity* of character will augment their love and increase their happiness and prosperity.

Suppose your large Benevolence fastens upon *doing good* as your chief delight, your highest duty, how can your feelings harmonise with a *selfish* companion, whose god is gain, and who turns coldly away from suffering humanity : refuses to bestow a charity, and contending with you for casting in your mite ? His Selfishness *reverses* your Benevolence against him, and this not only utterly precludes congeniality in other respects, but even engenders that displeasure which is the very opposite of love. But if you see in our companion that same gushing fountain of humanity which overflows your own heart, how does this common feeling, this *congeniality*, swell the love and estimation of each for the other, and endear both to each other ?

If thoughts of God, eternity, and things sacred be uppermost in your own mind, you can no more commingle your joys, sorrows, affections, and feelings with one who *trifles* with these things than you can assimilate oil and water, to say nothing of the painful apprehension often entertained by such that death may separate them for ever. Nor can your irreligious companion esteem or love one whom he regards as deluded or fanatical. Not only will there be a want of congeniality of views and feelings in a most important point, but your reversed religious feelings will reverse your other faculties against him, and his Combativeness be reversed against you on account of those religious feelings which you regard as most sacred, and this will be liable to reverse his love, and to root out the last vestige of affection between you. But if you both love to worship God *together*, to pray with each other, and mutually offer thanks to the "Giver of every good and perfect gift ;" if you can walk arm in arm to the sanctuary, sweetly conversing, as you go and come, upon heaven and heavenly things ; if you can mutually and cordially succour each other when tempted, and encourage each other to religious zeal, and faith, and good works, this *religious* union will unite you in other respects, and enhance your mutual esteem and reciprocal love. Unless I have seen and felt in vain,

and in vain deeply pondered the volume of man's nature as unfolded in the book of Phrenology, this harmony in other respects is but the precursor—the necessary concomitant, and the co-worker of connubial love. Even when husbands and wives belong to different religious sects, this concord is essentially marred in regard both to themselves and their children.

If Approbateness be large in the one, but small in the other, the conduct of the latter will frequently incur the reproach of his fellow-men, which will mortify and displease the other extremely, and be liable to create in each unfavourable feelings towards the other; but if the desire for the good opinion of others be strong in *both*, each will be delighted with praises bestowed upon, and defend the character of, the *other*—be ambitious to merit the other's approbation, and so conduct themselves as to secure for both a respectable standing in society. How many men abstain from doing wrong lest they should bring disgrace upon their wives and children? And how many more are incited to praiseworthy deeds because of the consequent honour shared with them

If the large intellectual organs of the one prefer the paths of literature to fashion, and philosophical conversation to idle chit-chat, while the weak intellectual organs and excess of vanity and Ideality of the other seek the gaudy splendour and parade of fashionable life, the former will be continually disgusted with the fashionable fooleries of the latter, and the latter equally displeased with the intellectuality of the former. But if *both* be intellectual, if both love to think and read, and especially if both prefer the same class of books and studies—which they will do if their organs are similar—they will not only be delighted to hold intellectual intercourse with each other by conversation and reading, but will be able to promote the intellectual advancement of each other; criticise each other's ideas and productions, and continually and immensely advance each other in the main object of desire and pursuit. How exceedingly delighted must President Adams have been with the highly intellectual correspondence of his uncommonly talented wife, and how much more with the masterly manner in which she conducted the education of their son, ex-president John Quincy Adams,\* and instilled into his tender mind those principles of integrity and uncompromising moral rectitude which, together with his acknowledged intellectual superiority, placed him in the presidential chair, and distinguished his long and useful life? A correspondence which is *all love* would soon cloy and sicken an intellectual companion, whilst one rich in *ideas* and good *counsel*, and also full of tenderness and elevated love, is a rare treat, a treasure which must be *experienced* to be appreciated.

If the temperament and feelings of the one be coarse and harsh, while those of the other are fine and exquisite; if the one be phlegmatic and the other sentimental; one quick and the other slow; one elevated and aspiring, the other grovelling; one clear-headed, the other dull of comprehension; one frugal and industrious, the other idle and extravagant; true connubial love cannot exist between them. How can *two* walk together unless they be agreed? And if Phrenology be true, how *can* they be agreed unless their temperaments and organs be *similar*? How can husbands and wives live happily together whose tastes, dispositions, objects, sentiments, views, opinions, preferences, feelings, &c., &c., are *conflicting*, when every faculty of the one only excites those of the other to *discordant* and *disagreeable* action; the product of which is pain, which engenders dislike? The very essence

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\* If any should deem this allusion irreverent or improper, let such read the published correspondence between President John Adams and his wife, particularly in reference to the education of their children, and at the same time recollect that scarcely any one thing will attach an intellectual man to his wife sooner or more effectually than to see her employ a vigorous intellect and an enlightened judgment in the training and home education of their children.

of connubial love, that in which alone it consists and has its being, is congeniality.

Let the reader now pause and examine the correctness of this principle. Inquire at the shrine of your own heart, and question the *experience* of the married in regard to its validity. I call upon you who are married to bear witness whether you do not love each other so far as your qualities of mind *harmonise*, and on account of that harmony. Do those of you who love and admire each other do so on account of your mental *similarity* or *dissimilarity*? And do not those of you who in part dislike each other do so because you are *unlike*? Is not the main procuring cause of that frequent want of love between husbands and wives founded in this want of *similarity of their feelings and intellectual qualities*? Does not this dissimilarity account for there being so many *pairs*, yet so few *matches*? This is *Phrenology*—this is *human nature*.

If to this you answer by asking 'how it happens that they love and marry at all since this *similarity* is the law and the basis of love, and since after marriage they find they do not possess it?' I reply that, when first 'smitten,' they find, on a casual comparison of views and feelings, that they *are* alike on some one or two strong points, and marry before they have compared notes and feelings in *other* respects. Before marriage, only the *concordant* points were brought out; after marriage their *discordant* points are brought into *collision*, and their attachments are thus *reversed*.

To every unmarried man and woman then, I say, in the name of *nature* and of nature's God, marry congenial spirits or NONE—congenial not in one or two material points, but in ALL the *leading* elements of character. And to *obtain* this congeniality, marry one whose TEMPERAMENT and PHRENOLOGICAL DEVELOPMENTS are SIMILAR TO YOUR OWN! Do this, and you are *safe*, you are *happy*: fail to do *this*, and you marry sorrow and regret.

But if this principle hold true of the *other* faculties, how much more so of the *social*? If *they* be unlike—if Amativeness or Friendship be strong in the one and weak in the other, the former will be all tenderness and affection, but the latter too cold-hearted to reciprocate them, which will put the affectionate one upon the rack. Of all other points of dissimilarity, those in regard to the *social* faculties are the *most momentous*, and disagreement *here* the most DISASTROUS! See to it, therefore, those of you who have large domestic organs, that you marry one in whom they are also large, and *not pre-occupied*, or fastened on another.

In case your own excesses or defects are liable, if equally developed in a companion, to endanger your happiness, or prove injurious to your offspring, it may be best to violate this rule, by choosing a companion whose qualities are the *opposite* of your own in these injurious extremes. Thus, if your Cautiousness be deficient, you should not marry one in whom it is also small, lest your combined imprudences keep you both always in difficulty; but you should select a companion having this organ large—one who will take care of things, and stand sentinel for you *both*, warn you of approaching danger, and check your imprudences. Though these admonitions may at times annoy you, still, if you bear in mind the *good* conferred upon you by this dissimilarity, it will only tend to *increase* your love, especially as this course was pointed out by *intellect*, and required by your own good. But if Cautiousness be so excessive in you as to produce irresolution, procrastination, or cowardice, you require a companion in whom it is less, who will be bold and prompt, and encourage you to action, as well as dispel your groundless fears. Their carelessness may often make you afraid, yet this evil is less than its excessive development in both. Still a full and *equal* development of it in each is altogether preferable.

If Acquisitiveness be small in yourself, you should by no means marry one in whom this organ is also small, lest the combined extravagance of both, and the economy of neither, bring you to poverty, and keep you there; but you

should choose a frugal, acquisitive, industrious companion ; one who will make a good bargain, hold on to the purse strings, save everything, and check your profuseness. Though this parsimony may sometimes disgust you, yet, by recollecting that this very quality benefits yourself, this dissimilarity will only serve to increase your mutual esteem and affection. And yet, unless you saw in the light of this principle, that this disagreement worked on *your own personal good* as well as theirs, and was dictated by intellect, evil consequences would almost inevitably grow out of it. But by 'agreeing to disagree' for the sake of the common good, this opposition of qualities, instead of breaking in upon your affections, will only *strengthen* them.

But these exceptions to this rule are few, and can occur only upon the animal propensities or lower sentiments. On no account should they ever occur in reference to the moral sentiments or intellect. Agreement here is indispensable to true connubial love, while disagreement here is fatal to domestic happiness. This law is imperative. Whoever marries in violation of it must abide the consequences, and they will be found to be *terribly* severe.

If, however, your *own* animal propensities predominate, you should by no means marry one whose animal nature *also* predominates, for this will cause a perpetual strife, and continual boiling over of the animal natures of both. Nor should you marry one whose moral sentiments predominate ; first, because their goodness will be a living, ever-present reproof to your badness, tormenting you continually (for moral purity always rebukes selfishness); and secondly, because your propensities will be a perpetual thorn in the side of your companion. As well marry a chicken to a hawk, or a lamb to a wolf, as high moral sentiments to predominant animal passions. But, say you, If I must neither marry one having the *propensities* predominant, nor one of predominant *moral sentiments*, what *shall* I do, whom *shall* I marry? I'll tell thee, friend: *Don't marry at all.* Your *own good* demands this course. The farther you keep from the marriage state, the better for yourself and all concerned. Till you rid yourself of your selfishness—till your *moral sentiments* rule—you are neither fit to marry nor to mingle with your fellow-men at all. Your selfishness renders you *necessarily* miserable, and also all with whom you have to do. So have as little to do with your fellow-men as possible, both on your *own* account and on theirs. Above all, avoid this closest of all contacts, and especially refrain from *becoming a parent*, lest you render your posterity miserable by entailing upon them that animal organisation which torments yourself.

An extremely active *Temperament* forms another exception to this rule. When both parents are extremely active and nervous, then children will be liable to precocity, and subject to a premature death. For the same reason two persons having small chests and weak vital powers should not become parents, but should *off-set* these defects by opposite qualities in their companions on account of offspring. The domestic felicity of parents, and indeed of the whole family, is greatly augmented or diminished by the good or bad dispositions of the children, by their life and health, their sickness or death, &c., &c.; hence this matter becomes an item of no inconsiderable consequence to be taken into account in selecting a husband or wife.

Since this subject has thus inadvertently been broached, I will just allude to the *manifest* impropriety of choosing companions who have hereditary tendencies to mental and physical diseases, such as insanity, consumption, scrofula, apoplexy, &c., and show the importance of choosing a companion who is qualified to become the parent of healthy, moral, and intelligent offspring ; although to show *what* qualities are requisite in parents *as parents*, in order to prepare them to impart to their children the most desirable physical and mental qualities does not come within the design of this work ; it being detailed in one on "HEREDITARY DESCENT, ITS LAWS AND FACTS."



The leading principle of Phrenology in regard to marriage, together with its *reasons*, is now before the reader. But the next inquiry is, How can this harmony be *effected*? By what *means*, and in what *way* can it be brought about? For to know how to *obtain* this harmony is quite as important as the harmony itself. The answers of Phrenology here also are clear and directly in point, and its directions so plain that "he that runs may read." They are—

FIRST.—STUDY YOURSELF THOROUGHLY. Study both your physical organisation and your phrenological developments. Ascertain your *own* qualities, and that will tell you just what qualities you require in a companion to harmonise with them. I say, study yourself *phrenologically*; because no other method is equally satisfactory or certain. Without a knowledge of this science your Self-esteem, if large, will magnify all your good qualities, and throw the mantle of charity over your defects; or, the deficiency of this organ, with large Conscientiousness, will give you too low and humble an opinion of yourself, magnifying your faults and hiding from you your good qualities. Our own organisation constitutes the medium, or the *coloured glass*, through which we look at all subjects, ourselves included. If that organisation be defective, that is, if our characters be faulty, our standard of self-estimation is erroneous, and our self-knowledge proportionably deficient or defective. But in case Phrenology be true, it affords *certain* and *tangible* data for self-examination—data that *cannot be mistaken*—so that it leaves scarcely a possibility of our being deceived or mistaken in regard to our real characters, especially when we *combine* our own *consciousness* with a knowledge of our phrenological developments.

SECONDLY.—Phrenology will also tell you the true character and disposition of your intended, and thereby show wherein each is adapted to the other, or discover their want of adaptation. Modern courtship is little else than a school of deception. The time being previously appointed, the best dress is put on, the mouth put in prim and set off with artificial smiles; the gentleman arrayed in his best broadcloth, and the lady dressed in the height of fashion, and girt in too tightly to breathe freely or appear naturally; fine sayings, well spiced with flattery, cut and dried beforehand; faults all hid, and virtues set in the foreground; and everything whitewashed for the season. And, what is even worse, the night season is usually chosen; whereas this, the most momentous and eventful business in our lives, should be transacted in open daylight, when both parties are fully themselves, and have all their faculties in vigorous exercise. One main object of courtship should be to *become acquainted*, especially with each other's *faults*, for if the parties marry they are sure to find out these bad qualities, but it will then be too late. In trying to cheat the other party by *concealing* your faults, you are only cheating *yourselves*; for how can those love you whom you have *deceived*? And how can you live happily together when you both find yourselves taken in by each other? Hence you should freely disclose your *faults*; your virtues will exhibit themselves. Besides, persons in love are quite liable enough to be blind to the faults of their sweethearts, without any attempts to keep these faults concealed. The great danger—the *main* point to be guarded against—is a *relapse*, a *re-action* after marriage; which will be effectually prevented by *both disclosing their faults before* marriage.

But even in case your intended should follow this almost universal custom of practising deception, a knowledge of Phrenology, with one scrutinising glance, strips the character of all artificial deceptions that can be thrown around it, and furnishes an unerring index of character, talents, tastes, sentiments, predispositions, &c.; for the *developments* can neither be inflated nor depressed to suit the occasion, but are *fixed* and *permanent* signs of the *naked character*, just as it will be found to be on acquaintance. This science, therefore, is an *invaluable* directory to candidates for marriage. If it were studied

and applied there would be no more need of making a bad choice, or of mistaking a poor husband or wife for a good one, than of mistaking a thistle for a rose.

But if you have not sufficient time to study the science so as to apply it with the requisite certainty for yourself, you can employ the services of an experienced practical Phrenologist, or, if this cannot be done, a comparison of charts, carefully prepared by him, may answer. At this course you may stoile in ridicule; but what is there in it at all absurd, or even improper? Is it improper to *ascertain* the qualities of each other? Certainly not; whereas it is ridiculous to marry a *stranger*, or even one of whose qualities you know but little. Does this absurdity then consist in the proposed means of obtaining this knowledge? In what else can it consist? The only reason for smiling at this proposed method is that it is *novel*, which evinces the folly, not of this *method*, but of the *laughter*. Let such laugh on, for they laugh only at themselves; but let those who would avail themselves of an assistant superior to all others *observe the heads* of their intended, and marry *phrenologically*. And let matrimony, instead of being treated lightly, and as a matter of merriment, which is usually the case, be regarded as it really is—the most momentous business of our lives.

If to this it be objected that Cupid is blind, and that, though I have told how to select a suitable companion, I have not shown how to *get in love* with the one selected, I reply—

#### FIRST, RECTIFY YOUR STANDARD OF ESTEEM AND ADMIRATION.

If Cupid has always been blind, he has always *blindly followed admiration*. We fall in love with whatever we admire and esteem, and with that only. The young man who admires a delicate hand or handsome figure, a pretty foot and ankle, or a fine set of teeth, a small waist or fine bust, a beautiful face, or genteel manners, mostly will fall in love with one possessing the admired quality, and *because* she possesses it. But he who admires moral purity, or superior talents, or piety, or tenderness of love, will love a woman possessing these qualities, and on *account* of this quality. Is not this proposition founded in a *law of mind*? Who can controvert or essentially modify it? To you whose experience enables you to judge *feelingly* in regard to this matter I make my appeal for its correctness.

This point being established, it follows that whoever regards particular forms of the head, or certain phrenological developments, as indications of those qualities of mind admired, will fall in love with one having these developments just as deeply and effectually as with one having a pretty face, handsome figure, &c., when *they* are admired, and for precisely the same reason—namely, *because* they are admired. Why should this not be the case? My position, that love follows admiration, embodies the entire experience of mankind, and is invulnerable; and the consequent inference that those who admire an excellent head will surely fall in love with it is conclusive. Whatever, therefore, a young man or woman admires most, whether personal beauty, a sweet smile, a talent for music, or poetry, or painting, or high intellectual or moral attainments, or kindness, or industry, or frugality or wit, or strong common sense, or a well-formed head, as indicating a superior mind or excellent feelings, will be fallen in love with first. To this rule there can be no exception. By applying it you can guide your love in any channel pointed out by intellect or sanctioned by the moral sentiments. This principle is to your love what the helm is to a ship, and intellect should be the pilot. Let your intellect and higher sentiments rectify your standard of admiration and esteem, and this will effectually govern your love, and guide it into the peaceful haven of connubial bliss.

Allow me to add that my own experience accords entirely with this principle, besides fully confirming the preceding, namely, that of selecting a companion by the *developments*. I say, with *emphasis*, and from *experience*, that I would place more confidence in a good phrenological head, in connection with a good physical organisation and training, than in ten years' acquaintance and courtship added to all the recommendations that can be produced. They never vary, never deceive! while the latter may be only outside appearances. How often have they deceived the most cautious? So often—so egregiously—that choosing a companion has been appropriately compared to buying a ticket in a lottery. You may draw a prize, but the chances are ten to one that you will draw a blank. In hundreds of instances have I seen the course here proposed of courting and marrying by the developments followed, and in as many instances have been called on professionally to decide on the fitness and the adaptation of the parties to each other, and never saw *one* to terminate otherwise than *happily*. I stake my reputation as a Phrenologist on the success of this direction properly applied, and am entirely willing to abide any evil consequences resulting from its failure.

But, continues our objector, though you show us how to make our choice, and then how to get in love with the object chosen, yet it is quite as important that you show us how to get the object of our choice in love with us. I reply, that in case the affections of the other party are not previously engaged, very little difficulty need be apprehended about engaging them; for both young men and young women are apt to get in love quite easy enough without effort. In fact, the great difficulty consists in keeping them from loving till they are fully matured and prepared for marriage.

And now, good reader, let us pause and review the ground already gone over. The three points thus presented are—

1. THE POWER OF THE DOMESTIC FACULTIES OVER THE HAPPINESS OR MISERY OF MANKIND.
2. THE NECESSITY OF HAVING A COMPANION SIMILAR TO YOURSELF.
3. THE NECESSITY OF RECTIFYING YOUR STANDARD OF ESTEEM AND ADMIRATION, thus enabling you to control your love.

If this last direction should evoke the question, "By what model shall we rectify our standard? On what principles shall this esteem and admiration be based?" I answer, on

#### A FULL DEVELOPMENT OF THE MORAL SENTIMENTS.

This, according to Phrenology, is one main condition of virtue and happiness. Not only does their proper exercise give a great amount of enjoyment of the purest, highest kind, but the action of the other faculties can be productive of their proper amount of pleasure only when exercised in harmony with them, and under their sanction. The exercise of the animal propensities without their sanction, or in opposition to their dictates, is a violation of God's law, and brings down penalties on the head of the offender. By the still small voice of these sentiments man instinctively *feels* that he should be governed. He is intuitively conscious of his obligation to yield obedience to their mandates. He feels their dictates to be imperious and sovereign. When large Acquisitiveness would fain take what belongs to another, Conscientiousness, even though less in size, resists the enticement with more energy and success than Acquisitiveness urges it. It is only after the moral sentiments have been disarmed of their power by having been perverted that they allow the propensities to lead astray. No exercise of these propensities without their sanction, or at least in *opposition* to their sanction, can ultimately produce happiness, but always pain. It is a law of our nature that selfishness and sin—only

another name for the predominance of the propensities—shall invariably punish themselves; and, on the other hand, that virtue and moral purity—only other names for the ascendancy of the moral sentiments properly directed—shall make their possessor happy. To enjoy the domestic relations, your moral faculties must first be exercised and gratified; and, in order to this, you require their proper development in your companion, so that this companion may continually and agreeably excite your moral faculties. If, therefore, you do not wish to be put in perpetual torment, by having your own propensities continually excited by their predominance in your companion, or if you would inhale, day by day, and year by year, the balmy breezes of high moral sentiments, of pure and holy emotion, see to it, I beseech you, that you choose a companion having large moral organs, so that your own may be continually and agreeably excited.

To *woman* this principle applies with double force: first, because she is much more under the power and subject to the caprice of her husband than he is to hers, and therefore her happiness depends more on *his* being a good-feeling man, than his happiness depends on *her* good feelings; but what is more, man is less likely to be moral and virtuous than woman; that is, woman has generally better moral developments than man, and, secondly, woman is more social, affectionate, and domestic than man; that is, she enjoys a good husband and suffers from a bad one more than it is possible for a man to enjoy a good wife or suffer from a bad one.

The reader hardly requires to be told that a predominance of the moral sentiments is indicated by a high head, and one that is long, especially on the top; while a large neck, and a thick, broad, conical head, one that runs up as it were towards a peak upon the top, somewhat resembling a cone, largest at the base, and neither high nor long, indicates the ascendancy of the propensities. Do not marry a man with a low, wide, flat head; for, however fascinating, genteel, polite, tender, plausible, or winning he may be, you will repent the day of your espousal. I would not have you marry a head too long, or too thin, lest your husband should lack the requisite force of mind and energy of character to support yourself and children; but marry a well-proportioned head and body. In my work on Education I have shown that, other things being equal, the best heads are those in which the organs are the most evenly and harmoniously developed and balanced—a principle which should be borne in mind in selecting companions for life; for, the better their characters, the greater the enjoyment you will derive from their society and affection, and, education and other things being right, the more equally developed their organs, the more perfect will be their characters, and the greater amount of brain in your head that will be called into action by them, and, consequently, the greater your happiness.

Let us now look at a few illustrations and applications of our second leading principle, namely, the importance of marrying so as to gratify the whole brain, or the moral and intellectual faculties in conjunction with the propensities, rather than to gratify the propensities merely. If your standard of admiration be beauty, and you love and marry this quality, you gratify Amativeness only, combined perhaps with Ideality and Form, so that but a small portion of your brain is exercised or gratified, nor that too long, for beauty soon fades.

So, if you admire a singing-bird, and love and marry her because she gratifies your organ of Tune, combined with one or two others, the cares of a family, blended with another kind of music, are liable to drown the tones of the piano or harp, and compel you to exclaim with Micah, "You have taken away my gods! What have I more?"

If Acquisitiveness determine your choice, and you love and marry for riches, though you may gratify a single faculty, and that a lower propensity, still you thereby violate the main law already presented, which requires the ascendancy and dictation of the moral sentiments. And you incur its penalties. Married

gold generally vanishes; but even if it remain, the other party cannot fail soon to discover your motive for marrying, so that this very money is likely to become a bone of contention between you for life. No! you cannot violate this law without incurring its penalties, and these penalties are terribly severe.

The rage of American gentlemen seems to be for rich wives and small waists—both curses to any man. The habits of women brought up in affluence are anything but those calculated to make a husband happy. They usually know little or nothing of domestic matters; are neither able nor willing to work; and, worst of all, are fashionable, and fashionable life is one continued round of deception—a tissue of hollow-hearted pretensions. Rarely have such women much sterling sense, much energy of character, or much power of intellect. They expect all around them to be their waiters. They must have their every whim gratified, and all their requisitions implicitly obeyed. And then, too, most of them have been in love beforehand, and many of them several times over. The parties they have attended and the company they have seen have brought with them love scenes and disappointments, till their elements of love have been seared and blighted. And as we have hinted before, those who marry for wealth do not often secure to themselves that very wealth for which they marry, for rich girls, besides being generally destitute of both industry and economy, are frequently extravagant in their expenditure. They generally have insatiable wants, yet think that they deserve to be indulged in everything, because they placed their husbands under obligation to them by bringing them a dowry. And then the mere idea of living on the money of a wife, and of being supported by her, is too much for a man of an independent spirit. What spirited husband would not rather prefer to support both himself and wife than submit to this perpetual bondage of obligation? To live upon a father, or take a patrimony from him, is bad enough; but to run in debt to a *wife*, or to owe her a living, is too aggravating for endurance, especially if there be not perfect cordiality between the two, which cannot be looked for in money matches. Whoever violates the sacred relations of matrimony by marrying mainly for riches is accursed. He deserves to drink deep, and to drink through life, of the cup of matrimonial bitterness.\*

Still I would not have you marry a companion from the depths of poverty, for extremes either way are unfavourable. The prayer of Auger, "Give me neither poverty nor riches," is the golden medium in this respect.

And to you, young ladies, let me say, with great emphasis, that those who court and marry you because you are rich will make you rue the day of your espousals. When they get your *money* they will neglect or abuse *you*, and probably squander the money itself, leaving you destitute, and abandoning you to your fate.

Do not marry an idle girl. Ladies take too much pride in cultivating delicacy and softness; refusing to labour, lest they should spoil their hands. But if working spoils their *hands*, its absence spoils their *brain*; for labour, or at least a degree of exercise, is indispensable to vigour and strength of body, and this to a vigorous brain and strong mind. Marry a working, industrious young lady, whose constitution is strong, flesh solid, and health unimpaired

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\* "What!" you exclaim, "should the rich *never* marry?" It is not against riches as such that I exclaim, but against those things that usually *accompany* them. I have elsewhere shown that the possession of great wealth violates a law of man's constitution, and therefore brings its punishment along with it. These punishments are inseparable from wealth, and therefore follow it into married life as well as everywhere else. Wherever riches go they entail unhappiness; and parents who leave their children wealthy, in this very act entail a curse upon them proportionate to the amount left them above a mere competency, including the means of intellectual and moral improvement. Let *facts* be my vouchers. Do they not bear me out in this assertion? Take it whichever way you please, rich girls make poor wives; and yet they are the first selected. Shame on sordid wife-seekers, or, rather, *money-seekers*: for it is not a *wife* that they seek, but only *filthy lucre*! They violate all their other faculties simply to gratify miserly Aquisitiveness! Verily, such "have their reward."

by confinement, bad habits, or late hours. Give me a plain, home-spun *farmer's* daughter, and you may have all the rich fashionable belles of our cities and villages.

Marrying small waists is attended with consequences scarcely less disastrous than marrying rich and fashionable girls. An amply-developed chest is a sure indication of a naturally vigorous constitution, and a strong hold on life; while small waists indicate small and feeble vital organs, a delicate constitution, sickly offspring, and a short life. Beware of them, therefore, unless you wish your hearts broken by the early death of your wife and children. Temperance ladies have wisely adopted the excellent motto, "Total abstinence, or no husbands." Let *men* adopt the equally excellent motto, "Natural waists, or no wives." Tight-lacing is gradual suicide, and almost certain infanticide, besides exciting impure feelings.\*

But to return to the necessity of amply-developed moral organs in a companion and parent. A story or two from real life will illustrate and enforce this point better than all the reasonings that can be adduced.

It was in a country village, and just before tea-time on a scorching hot day, that a boy, returning tired and hungry from the blackberry-field, entered the store of a very pious member of a church, and asked how much he would give for the berries. 'A sixpence,' answered the man of prayer, though his practised eye saw that they were amply worth double that sum. On turning them out the poor boy saw that he had not obtained half their value, and began to cry, for his heart was set upon this money to procure a much-desired gratification. 'A bargain is a bargain,' said the praying man of little conscience, as he ordered the berries to be prepared for the supper-table. 'Do let the boy have his berries or their full value,' said his conscientious and benevolent wife. This occasioned an altercation, which ended in his wife's crying along with the boy, and refusing to partake of the berries, and even of her supper. How could she relish a repast the purchase of which outraged her Conscientiousness and Benevolence, as well as exposed her husband's utter want of moral principle and good feeling? But if Conscientiousness and Benevolence had been large in him also—if, when he saw that the sobbing boy repented of his bargain, and had not been paid enough for his berries, she had seen him pay the boy the full value of his earnings, instead of swindling him, she would have admired the noble act, loved her husband the better for his staunch integrity, and eaten the berries with a relish. But how could she love a cheat †?

Another wife, of great kindness and a nice sense of justice, saw her husband wrong her mother, and prove ungrateful as well as untrue to his promise, and declared that for ever after this she loathed and even hated him.

Another wife caught her husband in a trifling deception, unimportant in itself, and not calculated to injure anyone, but it threw her into such an agony of feeling that the cold drops of perspiration covered her face, the colour fled from her cheeks, hope departed from her soul, and she became almost deranged; nor is the impression effaced to this day, though she never saw a

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\* The *object* of the ladies in thus padding some parts and compressing others is to make themselves more *handsome*; though corsets *destroy* the very beauty they are designed to impart; for beauty depends upon *health*, and tight-lacing *impairs* health, besides shortening the period of youth. Better far adopt the Chinese method of lacing the feet, or even the flat-headed Indian method of compressing the head; for the compression of no other part is so detrimental as that of the waist, because it retards the action of the *vital organs*, which sustain life. Abundance of exercise and fresh air is the best recipe for promoting beauty. Those who keep up the tone and vigour of their physical organs will be sprightly and interesting, and even though coarse-featured, their freshness, their wide-awake appearance, and the animated glow of their cheeks, will make a far deeper impression than laced but sickly beauty.

For a full exposition of the evils of this practice the reader is respectfully referred to my work on this subject.

† The sequel of this story is that the next January this praying cheat was imprisoned for stealing. The wife's grief on the occasion of the berries was trifling compared with that on his being imprisoned; yet such a result might have been almost predicted; for the man who will a cheat boy out of a cent, will cheat his fellow-men in large matters.

similar instance after. This single trifling deception reversed her Conscientiousness, and came near reversing her devoted love for him.

Reader, suppose you bury your face in your hands, and think over similar occurrences between husbands and wives which have fallen under your own observation, and then ask yourself if all the gods in Christendom would tempt you to be similarly situated? And if you ask how to avoid such a fate, I answer, marry a companion having amply-developed moral organs.

These remarks have incidentally evolved another principle, which accounts for a phenomenon of frequent occurrence, namely, the fact that some husbands and wives can neither live together nor apart. Their organs of Adhesiveness makes them love each too well to be happy when separated; yet, some of their other faculties having become reversed, repel a close contact, and forbid their living together. They love and yet hate each other, and are in a dilemma, either horn of which is most painful, yet both might have been avoided by marrying one of kindred developments.

Other facts and illustrations on this subject might be added; but these are sufficient.

Without the strictest fidelity of each party to the other—without unreserved candour and perfect good faith—reciprocal love cannot exist, for that esteem will be destroyed on which, as already shown, true love can alone be founded.

A similar train of remark applies to marrying an economist or a worker. Each is excellent in its place, though subordinate to the character as a whole. Many men, especially in choosing a second wife, are governed by her known qualifications as a *housekeeper* mainly, and marry industry and economy. Though these traits of character are good, yet a good housekeeper is far from being a good wife. A good housekeeper may indeed prepare you a good dinner, and keep her house and children neat and tidy, yet this is but a *part* of the office of a wife. Besides all her household duties, she has those of a higher order to perform. She should soothe you with her sympathies, divert your troubled mind by her smiles and caresses, and make the whole family happy by the gentleness of her manners and the native goodness of her heart.

#### BEING A GOOD WIFE IMPLIES BEING A GOOD HOUSEKEEPER.

Far be it from me to underrate a good housekeeper as a constituent part of a good wife. I *know* her value, and I tell every young man that he cannot have a good wife *without* her being a good housekeeper; and I tell you, young ladies, that to be good wives you must be good housekeepers. True, this is but one duty, but it is a most important one. You cannot love a husband without wishing to make him happy, and to do this you must know how to economise; how to make his hard-earned money go as far as possible, and procure as many of the comforts of life with it as can well be obtained; how to prepare his meals properly, and gratify his appetite; how to make his home agreeable, and feed and clothe his children; how to make and mend things promotive of his comfort; and how to wait on him; for there is a certain mysterious something in the relations subsisting between husbands and wives, which renders the meal prepared by a loving wife far more palatable than the same meal prepared by a servant; an agreeable beverage still more agreeable by its being served by her; and even a bitter medicine less bitter when administered by her. For the correctness of this remark, I appeal to every man who has a good cook and housekeeper in the person of his wife. To all young men in search of a good wife, let me say, let the woman of your choice be familiar with the kitchen and the smoothing-iron. If to these she adds those graces and accomplishments requisite to shine in the parlour, so much the better; but at all events select a good housekeeper. I despise the modern notion that a wife must be too pretty and too accomplished to work. As soon would I deem it a recommendation in a woman not to know how to eat or

sleep. What! a woman look for a husband, when she does not know how to make bread or wash dishes!

Every girl should be taught to sew, spin, weave, make dresses, &c., as well as to sweep, wash, cook, &c. Before you make an offer, see what kind of bread your intended can make; for I assure you that home-made bread is better and cheaper than baker's bread. To young men who are poor, and even to those in moderate circumstances, the qualifications on which we are insisting are invaluable, and even indispensable; and to the rich, especially in these times of pecuniary embarrassment and uncertainty, they are scarcely less so.

And let the ladies, before giving their assent, see to it that their would-be husbands have some occupation which can be relied upon to support a family. Industry and economy are invaluable in a husband. The man who is without them may possibly make a good one, yet he must have virtues many and rare to make up for these deficiencies. Shun the dandy; dismiss the young man of leisure who has drawn his support from a father's pocket. If he can love you (which is doubtful), he cannot support you, and therefore, at the farthest, cannot be more than half a husband, just as you can be only a part of a wife if you do not understand domestic matters. Get a whole wife or husband, or none; for, while you require congeniality of feeling as the foundation, you also require these household excellencies as no inconsiderable parts of the superstructure.

#### A GOOD PHYSICAL ORGANIZATION AND A STRONG CONSTITUTION.

Another leading element in this standard of admiration should be a good physical organization, or a strong, healthy constitution. On the importance of health in a companion and parent it is hardly necessary to dwell. Many of the pains experienced by mothers as mothers have their origin in feeble constitutions or physical debility, and indicate sickly, peevish, scrofulous, consumptive, short lived children, or their pains while alive, and their premature death, to the feeble, broken constitutions of their parents. And, what is more, the state of the mind takes its origin from that of the body. Hence those who are subject to dyspepsia, liver complaint, indigestion, ennui, a sour stomach, heartburn, hypochondria, &c., &c.—which are all only different forms of the same disease, namely, the morbid excitement or predominance of the brain and nervous system—and continually oppressed with sad, melancholy feelings; with that depression of spirits which turns everything into occasions of trouble, and sees impending misfortune in every trifling event. It renders them miserable, and goes far towards making all connected with them unhappy. How much more enjoyment can be taken in the company of a husband or wife who always has a cheerful and happy flow of spirits; who requires little nursing; who is generally healthy and able to endure fatigue and exposure, and to take a rural ramble, or turn off a smart day's work; who does not sink under misfortune, and is not the creature of morbid feeling, &c., than in the company of a companion who is misanthropic, irritable, weakly, and often requires the doctor, or continually excites your sympathy!

Nearly all the ladies' fashions of the present day are calculated to destroy the health and ruin the constitutions of ladies, so that they must be patched up, though injured ultimately, by tea, coffee, and those other nostrums employed by invalid ladies. Let the medical profession, and especially the vendors of quack medicines, but speak out on the subject and they will astound all. I refer to females, not because their health is more important, or their debility more disastrous, but because they are generally the greatest sufferers. Behold their pale and sickly forms; extreme delicacy and frailness; their deficient vital organs; their excessive nervousness; their small waists, and slim, feeble muscles; their sufferings as mothers, and their mental and



physical debility! And all caused by their ignorantly or fashionably violating the laws of Physiology. Even girls must be shut up in-doors and laced tight, and never be allowed to romp, because it is so ungenteel. No! she must be a lady. Shame on such mothers! Shame on such ladies! Let girls romp, and let them range hill and dale in search of flowers, berries, or any other object of amusement or attraction: let them bathe often, skip the rope, and take a smart ride on horseback; often interspersing these amusements with a turn of sweeping or washing. They will thus develop their vital organs, and lay a substantial physical foundation for becoming good wives and mothers. The wildest romps usually make the best wives; while quiet, still, demure, sedate, and sedentary girls are hardly worth having.

Confinement often induces gloomy feeling, if not peevishness, which may usually be dispelled by a smart walk or ride, or any similar recreation. Many wives suffer extremely from debility and bad feelings, induced by excessive care and labour, and by seldom taking that recreation which is so indispensable to mental health and happiness.

Many husbands could not more effectually promote their own happiness, or the happiness of their companions, than by diverting them by means of a ride, sail, ramble, a visit to the Museum, passing an afternoon or evening with a friend, spending an hour in cultivating the garden, &c. To every husband I say, 'TAKE SPECIAL CARE OF THE HEALTH OF YOUR WIFE'—it is an invaluable treasure.

In concluding the directions for choosing a companion, I say marry so as to gratify, not *one* faculty, nor a *few* faculties, but ALL; for it is the harmonious exercise and gratification of all which secures the height of human enjoyment. But if you cannot do this in its full extent, which might, perhaps, be too sweet a cup for erring mortals to drink, gratify as many as possible. If you are prevented from attaining the acme of human bliss, ascend as high as you can. Let no one quality of body or mind, however desirable, determine your choice; but examine the character as a whole. And bear in mind the fact that our tastes vary much between youth and mature age. In the former period the animal feelings are much more vigorous than in after life, yet by far the greatest and best portion of life is that passed after the propensities begin to wane. Let those youth, therefore, in whom Amativeness especially is strong and ardent, or who seek to marry for *personal beauty*, remember that this ground of preference is not to continue always. And let them cater, not for their animal natures mainly, but for their moral and intellectual faculties, whose fountains of happiness never dry up, and whose streams of pleasure are always rich, and pure, and abundant.

#### HINTS IN REFERENCE TO CONDUCTING COURTSHIP.

To make a good selection is by no means the only important point connected with getting married. The proper method of conducting the courtship is also important. In forming the matrimonial relations let special care be taken properly to blend the qualities and assimilate the affections of each with those of the other. Not only should the faculties be similar in point of size, but, from the first, should be trained so as to act in unison and harmony with those of the other. Every unpleasant feeling during courtship is sure to have its bitter taste through life. How often do petty feelings of pride, proceeding from the jealousy, or distrust, or guilty conscience of the complaining party, construe a fancied neglect or imaginary provocation, wholly undesigned by the other, into occasions of disaffection, which frequently widen into reciprocal coldness, if not into mutual accusations, and thereby break off, at least for a time, their growing attachments, leaving both most wretched. Each loves the other, and yet, while their affections incline them one way, their pride or Combativeness drives them the other. This *clashing* of the faculties is the

most unhappy state of mind imaginable. Beware how you set your faculties at war with each other. Why make yourself miserable merely to tease and torment the object of your affections? Recollect your liability to become jealous without cause in consequence of the principle before explained, and, therefore, make abundant allowances, as well for yourself as for your intended. Close the breach; heal the wound; make mutual concessions; and never let your pride conflict with love. And let young gentlemen especially remember that they are more liable to give occasions of offence than young ladies; for it is almost impossible for a woman who is in love to ill-treat the object of her love. Then again, young ladies suffer more from these interruptions of affection than young men, because their attachments are so much stronger and more tender, and they have so much less to divert their minds from the cause of their grief. Follow the advice already given, in first choosing *intellectually*, and then let no petty feeling of pride or anger interrupt your love. Give no occasion of offence, and be slow to receive one. The acknowledged principle that we dislike those we have injured shows that those who are angry first, or most, are usually the most in fault.

#### THE AGE MOST SUITABLE FOR MARRYING.

On this point a great diversity of opinion exists. The number of years is not material. The vigour and youthfulness of the constitution are most important. Some are older at twenty than others at twenty-five. Never ask how many years old one is, but only how much animal and mental vigour, or how much youthfulness and ardour there is. A broken constitution begins to decline at seventeen, while a strong, unimpaired constitution is in its prime at forty. These remarks apply both to the absolute age suitable for marrying and to the comparative ages of the two parties. I incline to the opinion that between twenty and thirty is the age designed by nature, and the one most suitable *in itself*; yet persons from short-lived families mature much earlier, and are inclined to marry much younger than those from long-lived families. Those who are inclined to marry very young are generally prematurely developed, and often die early. Exceptions occur, yet this principle forms a law of our being.

Franklin, in a letter to a newly-married friend, advocated early marriage, on the ground that *nature* would indicate the most suitable time by imparting the requisite feelings or instinct. In this he was *philosophically* right, but *practically* wrong, as will appear on referring to those causes which develop Amativeness prematurely. Let nature have her perfect work, and she will then indicate the proper time by implanting the requisite feelings; but that artificial state of society in which we live violates her laws, and causes her to lead men wofully astray in this respect. One thing is certain, that, at all events, marriage should be postponed till the growth is completed, the physical organisation well nigh consolidated, the judgment matured, and till both parties have obtained a tolerably good practical knowledge of physiology as well as of the best method of nursing and educating children.

Early marriages have one important advantage—that of the more easily assimilating the feelings and adapting the habits to each other; but they have the disadvantage of a judgment too immature to select the best object of affection; while late marriages have a disadvantage of far greater magnitude, that of marrying a second or twentieth love, which is well nigh sufficient, as we shall presently see, for ever to blast true connubial love. As society now is, it is my unequivocal opinion that early marriages, say from *fifteen to twenty*, are the best, if not almost indispensable to virtue and connubial happiness.\*

\* This is said in reference to Americans. From twenty to twenty-four may be the best time for people in England. The Americans are men and women a few years earlier than the English.

Of the two evils, of marrying without judgment, or of marrying *with* judgment but *without love*, choose the former, for it is the least. But a more conclusive reason for this opinion will be given under a subsequent head.

## AN IMPROPER OBJECTION TO EARLY MARRIAGES.

Many mothers object to their daughters marrying young, on the ground that married women not only take little or no enjoyment, but are rendered unhappy by the cares of the family, and by being shut out from all the pleasures of society. What an idea this! What a reflection on this heaven-born institution! Those whom marriage renders unhappy, or even those whose pleasures it abridges, had better not marry at all.

But what is the origin of this blasphemous idea? Why, that all the pleasures of young ladies are summed up in attending balls, parties, sleigh-rides, pleasure excursions, love-scrapes, courting, flirting with the beaux, to secure a more advantageous match, and things of this class! It certainly can have no other origin. It is an impious reflection on the marriage institution and on the family relations. I scorn the mother who would postpone marriage an hour to allow the daughter an opportunity to take a little more *pleasure*. In so doing, people condemn marriage as an evil, and imply that matrimony is a hateful altar on which woman with all her hopes and prospects must be sacrificed—that married life is a slavish and intolerable drudgery, and therefore to be postponed as long as possible. And to these women who do postpone marriage from this wicked motive, married life is all that they fear; for they marry from interest, not from love, and therefore experience all the miseries, and none of the blessings, already described. Those *mothers* who entertain so repugnant an idea of marriage, only show what kind of wives and mothers they have been. The sooner this relation is entered into, after the intellect of the parties is sufficiently matured to choose the proper object, the better.

## SINGLE BLESSEDNESS.

But some choose not to marry at all, but prefer a life of single blessedness. And I grant that it is better not to marry, than to marry a bad husband or wife; for it is obviously better to let the social organs remain unexercised, than to have them reversed or painfully exercised. Still marriage is just as much a part of our nature as talking or eating, and cannot therefore be dispensed with without serious detriment.\*

To those whose social organs are both large and active, Phrenology says, with all the emphasis of a law of our being—MARRY! Marry *soon*, or else cease exercising your social faculties; because, besides foregoing the virtuous pleasures of that quiet, unchecked, and reciprocal exercise of the social faculties afforded by marriage, their ungratified action, or their vicious indulgence, will inevitably make you miserable.

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\* I really pity those young people, especially young ladies, whose domestic feelings are strong, whose hearts are gushing fountains overflowing with love and tenderness, but who have no fit object on which to bestow them. Who does not pity the cooing dove without its mate? Such anomalies rarely, if ever, occur in nature generally, nor should they occur in reference to man or woman. How many maiden ladies who are every way qualified to make the best of wives and mothers are doomed to live unmarried and to die unmourned! And many of this class are the very BEST of the sex—those whose feelings of love are of that exquisite character which, once disappointed, for ever afterwards refuse to violate the sacredness of their first love by a second engagement. Some of them are doubtless too particular, others too cautious, but the majority too tenderly endeared to some congenial spirit ever to cast an eye of love upon any other than him who bore off only to hight their first full-blooming affections. Let them not be ridiculed, but rather let them be commended for being thus true to nature, or rather, for having so much nature in them. And then, too, they render themselves very useful in families, neighbourhoods, and societies, as teachers, nurses, makers of garments, &c. But they should not expect to live as long or as happily as they would had they married well while young.

Phrenology, therefore, recognises and enforces this, as one of the first commands of God: 'Be fruitful and multiply, and replenish the earth.' Become husbands, wives, and parents; so that your social faculties may have full scope for action, together with the delightful objects for the combined exercise of the other faculties. You cannot be a whole man or woman, unless all your faculties are brought into pleasurable action upon their legitimate objects.

Many persons, particularly young men, refuse to marry, because they cannot support a wife in the style they wish. To this I reply, that a *good* wife will care less for the style in which she is supported than for *you*. She will conform to your necessities cheerfully, and be happy with you in a log cabin. She will even help you to support yourself. To support a good wife, even if she have children, is generally less expensive than to board alone, besides being one of the surest means of acquiring property. This false pride of wishing to support a wife in style, is really pernicious in its influences both on yourself and on woman. It tends to divert its entertainers from the proper motive of marriage, namely, *domestic enjoyment*.

#### MARRYING FOR A HOME MERELY.

Do not, however, marry for a *home* merely, unless you wish to become even more destitute with a home than without one, for it is on the same footing with "marrying for money." I know a lady who, when an orphan child, lived with a relative who abused her beyond measure, and who, at an early age, married, not because she had the least spark of affection for her husband, but to free herself from her uncle, and be independent of her friends. But, to use her own expression, "she jumped out of the frying-pan into the fire." I will not enter into particulars, but suffice it to say, that she described her situation as horrible beyond description, and that of her daughters as scarcely less so. The father, who should have loved and cherished his daughters for her sake as well as his own, hated and abused them on her account. She could not live with her husband, because his physical abuse was intolerable. She therefore obtained a divorce. Nor could she be comfortable separated from him, on account of her children; so that her sufferings can only be ended with her life. What a wretched life would the timely perusal of this work have saved her! "He that hath ears to hear, let him hear."

#### MARRY TO PLEASE NO ONE BUT YOURSELF, NOT EVEN YOUR PARENTS.

I know a lady who, to please a widowed mother and provide her a home, married a man for whom she had not a spark of love, and who, to obtain her, had artfully courted the mother rather than the daughter. Her marriage was the destruction of her pleasures, and the grave of that very mother who had persuaded her into it. Because the mother would not give him the command of a thousand dollars (it was this thousand dollars that he courted and married), the interest of which was her main support, he became her enemy, and made her life most wretched, and then exposed her in such a manner as to cause her death as effectually as if he had poisoned her.

Parents can no more *love* for their children than they can eat or sleep for them. They may give advice, but should leave the decision to the judgment of the parties themselves. Besides, such is human nature, that to *oppose* lovers, or to speak against the person beloved, only increases their desire and determination to marry. The beloved one is considered as abused, and this sympathy strengthens love and weakens the influence of those who oppose, and thereby furthers the match by preparing the way for an elopement. Many a runaway match would never have taken place but for unwise opposition. Reason with them mildly, and then throw the responsibility on them. Never disinherit, or threaten to disinherit, a child for marrying against your

will. If you would make your daughter marry a man whom you do not wish her to marry, oppose her violently, and she will be almost sure to marry him ; so also with a son.

The fact is, however, that such should be the relations between parents and children, that the latter should apply to parents for advice on the first pulsation of love. Let the father properly train his daughter, and she will bring her first love-letter to him, and give him an opportunity to cherish a suitable affection, or to nip an improper one in the germ.

There is, however, one way of preventing an improper match, and that is not to allow your children to associate with any one you are unwilling they should marry. It is cruel, as well as unjust, to allow a daughter to associate with a young man till her affections are rivetted, and then forbid her to marry him. Forbid all association or consent cheerfully to the marriage.

"But," answers a purse-proud mother, "my daughter has fallen in love with our hired man ! How could I prevent them being together?" Good madam, if your hired man be immoral or unworthy, exclude him from your family ; if he be intelligent or worthy, he may be as good as your daughter, for labour is neither a dishonour nor a crime, but just the contrary. If you are still determined that your daughter shall not marry a poor man, and yet must have a young man to do your drudgery, I see no other way but for you to hire a *rich* young man to do your drudgery, or else to break your daughter's heart, and render her miserable for life.

## DO NOT MARRY AN INTEMPERATE COMPANION.

So many and so aggravated are the instances of matrimonial suffering produced by marrying companions of intemperate habits, that a passing allusion to this subject is required. Intemperance is the parent of all vices. Such is the relation between the body and the base of the brain, or the animal propensities, that the stimulant afforded by alcoholic drinks excites these animal propensities, while it disables the moral sentiments, or intellect, and hence induces vice in all its forms.

Do not flatter yourself that your intended is only a moderate or an occasional drinker, for moderate drinking is the only cause of drunkenness. I never see a young lady tip a glass of wine in company without feeling troubled on her account. Wine is as bad for ladies, and for the higher or sedentary classes, as rum or brandy is for the labouring classes. To every young man, then, I say, do not marry a wife who drinks either wine or porter ; if you do, you will rue. You will, ten to one, find her irritable and peevish, and liable not to be virtuous. Every form of alcoholic drink excites Amativeness, which exposes any woman, when slightly exhilarated (I do not mean intoxicated), to be taken advantage of. If the exhilarating effects of ardent spirits render a man liable to be taken advantage of in business,\* then surely the exhilaration produced by any kind of ardent spirit, even by wine, exposes a woman to be taken unawares, and robbed of her most costly jewel. No wine-drinking woman is safe, even though she drinks only enough to become slightly exhilarated, for it is the exhilaration that does the mischief. Let those young men who gallant the ladies home from balls and parties where wine is drunk be my vouchers. For a woman to drink wine, or any kind of exhilarating drinks, I deem immodest and vulgar. Only wine-drinking women will object to this, and they know it to be true.

And to every young woman I would say, adopt the motto, "Total abstinence or no husband," for there is a world of philosophy in it. Unless a young man abstain totally from every form and degree of intoxicating drinks, he is in danger, aye, almost sure to become a drunkard, and not only neglect

\* And this is conceded on all hands ; for the most effectual way to take advantage of a man is first to treat him, not till he is drunk, but till he becomes excited and exhilarated.

to provide for a wife, but to drink up even her earnings, and abuse her in at the bargain. It is infinitely better to have *no* husband than a drunken one. I appeal to you, wives and mothers of drinking husbands, if you would not infinitely prefer never to have been married! Are not words inadequate to describe your sorrows and your sufferings, both on your own account and on account of your children?

Do not flatter yourselves that you can *wean* a drinker from his cups by love persuasion. Intoxicating drink at first kindles up the fires of love into the fierce flames of burning licentiousness, which burn out the very element of love, and destroy every vestige of pure affection. It over-excites Amativeness, and thereby finally destroys it, producing at first unbridled libertinism, and then an utter barrenness of love, besides reversing the other faculties of the drinker against his own consort, and those of the wife against her drinking husband. Read my work on "Intemperance," and you will never wish to marry even a moderate drinker, though it be a moderate drinker of wine only.

But another direction, more important, if possible, than any yet given is—

DO NOT ALLOW THE DOMESTIC FACULTIES TO BECOME ENGAGED UNTIL YOU HAVE MADE YOUR CHOICE AND OBTAINED CONSENT.

It has been already shown that no small part of man's happiness or misery depends upon the condition of his Social Faculties. Love is one of the most sacred elements of our nature,\* and the most dangerous with which to tamper. It is a beautiful and delicately-contrived organ, producing the most delightful results, but easily thrown out of repair. The domestic faculties are generally easily injured. It is with them as with Conscientiousness, Benevolence, Approbativeness, Veneration, &c. How pungent, how overwhelming, are the first compunctions of a guilty conscience! But every new violation wears off its tender edge, and blunts the moral sensibilities. So, when Approbativeness in a child, especially in a girl, is first wounded by reproof or reproach, her feeling of shame and mortification are so intolerable that she knows not where to hide her head. Her face is crimsoned with the blush of shame and sense of disgrace. But reproaches and blame frequently administered sear this faculty, and she now cares little for all the reproaches that can be heaped upon her. So, also, when a man whose heart is all alive to the miseries of sensitive beings sees an animal killed for the first time, or a fellow-being racked with pain, reversed Benevolence inflicts greater agony than that endured by the object pitied; yet a number of such sights so effectually harden the heart as even to prepare him to take part himself in killing animals. His Benevolence is seared, never again, perhaps, to experience that exquisite pity which accompanied its primitive, unviolated tenderness. So with regard to Veneration, Ideality, Cautiousness, and every other faculty. This principle applies to the *social* faculties. And since these organs are very large, the evils attendant upon their violation are proportionably great.

But how are these faculties seared? By the interruption of love. Interrupted love places its sufferers in the same position, with regard to loving subsequently, that violated Conscientiousness does with regard to moral principle, or being disgraced with regard to character, or witnessing pain with regard to sympathy. To love after this interruption with the same purity and tenderness as before is perhaps impossible.

Candidates for marriage, remember this law of mind. See to it, if possible, that your love is never interrupted. Do not allow your affections to become engaged till you have made your choice, and are tolerably certain of marriage.

\* What is called sudden love has its origin mainly in the action of Amativeness, and is another name for animal passion. True love is slower of growth—always mutual and reciprocal, and founded in esteem, and in an admiration of moral and intellectual qualities; while sudden love is excited by physical charms.

Courting without intending to marry, and parental interference with their children's affections, beside causing an incalculable amount of prostitution and wretchedness, render a large portion of the marriages of the present day unhappy. Good people mourn over these evils, but seldom dream of their cause. They even pray for moral reform, yet do the very things that increase the evil. Do you see yonder godly mother weeping over her fallen son, and remonstrating with him in tones of a mother's tenderness and importunity? That very mother prevented that very son marrying the girl he dearly loved because she was poor, and this interruption of his love was the cause of his ruin. If she had allowed him to marry this beloved one he would never have thought of giving his "strength unto strange women." True, the mother ruined her son ignorantly, but none the less effectually. That son next courts another virtuous fair one, engages her affections, and ruins her, or else leaves her broken-hearted; so that she is more easily ruined by others; and thus prepares the way for her becoming an inmate of a house "whose steps take hold on hell." Meanwhile, this spuriously-godly mother prays daily for the "Magdalen cause," and gives monthly to Moral Reform Societies. She means no harm (only to have her son marry wealth and fashion), but does wickedly and ignorantly perpetrate a crime of the blackest dye. Ah, proud, but foolish mother! Oh, ruined and abandoned son! Alas, wretched victims! If the painful consequences attached to this violation of the social feelings by this courting and loving without marrying were confined to the principal offender, the evil would be less, for every voluntary agent has the privilege of doing for himself as he pleases; but he certainly has no right to plant thorns of anguish under the pillow of his wife, or, rather, of his *victim*.

I say, then, that no man should ever pay his addresses to a woman until he has made his selection. He should first make his selection intellectually, and love afterwards. He should go about the matter coolly and with judgment, as he would undertake any other important matter. No man, when blinded by love, is in a fit state to judge advantageously as to what he requires, or who is adapted to his wants. I know, indeed, that this doctrine of choosing first and loving afterwards—of excluding love from the councils, and of choosing with the consent of the intellect and moral sentiments, is often at variance with the feelings of the young and the customs of society; but, for its correctness, I appeal to common sense. This is the *only proper* method. Phrenology requires, as an indispensable condition to virtue and enjoyment, that the propensities (that of love included) should be governed by the moral sentiments and intellect; and the more momentous the matter, the more imperious this requisition. Shall we, then, in this, the most momentous and eventful transaction of our lives, be governed by blind animal feelings? Science forbids it. Your own happiness forbids it. Hold then a tight rein upon your love till intellect shall have designated a suitable time, and selected a suitable object on whom it may rest for ever, and the full fruition of all those joys designed by God to flow from marriage will abundantly reward you for this temporary self-denial.

And especially let no young lady ever once think of bestowing her affections till she is tolerably certain they will not be broken off—that is, until the match is fully agreed upon. Let her keep her heart whole till she bestows it for life. This requisition is as much more important, and its violation as much more disastrous, to woman than to man as her social faculties are stronger than his. You cannot be too careful in your love—it is the pivot on which turn your destinies for life.

But here an apparently insurmountable difficulty arises to prevent putting this direction in practice. These matrimonial instincts generally develop themselves early, long before the judgment is matured, and often rage to a degree well nigh ungovernable, refusing to wait till the tardy intellect has made its selection, and has all things ready. In such cases, what must be

done? Kind reader, listen—moralists and philanthropists attend—while I strike the very root of this poisonous tree of domestic bitterness—while I lay open the cause of this unblushing licentiousness, which constitutes the sin of this sinful age—this nucleus of all the vices—this hell upon earth, whose fierce flames are continually consuming the life and souls of millions, by inflicting upon them all the mental and physical agonies which our nature can bear. That cause is the *premature development* and the *artificial stimulation* of Amativeness. I will expose a few of these causes, kept in constant operation by nearly all classes of the community, which tend to bring forward the passion of love prematurely, and to keep it constantly and morbidly excited.

1. THE IMPROPER CONDUCT AND CONVERSATION OF ADULTS BEFORE CHILDREN AND YOUTH. Nothing could more effectually wear off that natural delicacy, that maiden purity and bashfulness in youth, which form the main barrier against the influx of vitiated Amativeness, than the conduct and conversation of some who are even parents. How often do those whose modesty has been worn smooth, take pleasure in saying and doing things to raise the blush on the cheek of youth and innocence, little dreaming perhaps that they are thereby breaking down the barriers of their virtue, and prematurely kindling the fires of animal passion!

As puberty approaches the evil magnifies. The prematurely-kindled embers of love now burst forth into the flames of licentiousness or self-pollution. The machinery of balls and parties, of dances, of the other amusements of young people, tend to fan the flame. Thus they court and form attachments long before either their mental or physical powers are matured.

2. READING NOVELS, LOVE TALES, &c., &c. The fashionable reading of the day is still more objectionable. Whose sales are the greatest? Whose patronage is the most extensive? Those who publish the most exciting love tales. Country newspapers must have a part or the whole of some love tale every week, or else they are run down. These stories girls are allowed to read. How often have I seen girls not twelve years old as hungry for a love story as they would have been for their dinners. Their minds are thus sullied with impure desires. Shame on novel-reading women; for they cannot have pure minds or unsullied feelings.

3. A STIMULATING DIET preternaturally excites and prematurely develops this organ. There is an intimate relation between the state of the body and that of the animal propensities. Whatever artificially stimulates the body stimulates the animal propensities. Tea, coffee, flesh, tobacco, spices, &c., as well as wine and ardent spirits, are highly stimulating, and therefore powerfully excite these propensities. The inference is clear that stimulating food and drink tend to develop this organ prematurely, and keep it in a morbid, feverish state of action. Children, therefore, should not be allowed a stimulating diet, nor is it exactly proper for young ladies.

4. WANT OF EXERCISE is another means of exciting impure desires; while labour tends to subdue them. As the energies of the system are continually accumulating, they must have some door to escape. Labour and exercise carry them off through the muscles; but when this door is closed by fashionable idleness, their next medium of egress is through the propensities. This is established by facts. What classes of society are most virtuous? The labouring. Who are the most licentious? The idlers—men and women of leisure—those who are too good to labour. When the labourer retires he falls asleep at once, while those who are too proud or fashionable to work retire to indulge the nightly reveries of their fancies, mingled with unclean thoughts and stained with impure desires. Labour is as indispensable to moral purity as breath is to life. This is a law of our being. All who break it, even



fashionable ladies included, must abide the consequences ; one of which is a depraved imagination and unclean desires.\*

This principle applies with increased force to *children and youth*. Keeping them housed up indoors, from play or labour, tends to ripen Amativeness prematurely, and then to keep it morbidly active. This is the cause of its appearing two or three years earlier in the city than in the country, and several years earlier *there* than unthwarted *nature* would develop it. Were these and other causes of its premature development done away, it would not probably appear till between the twentieth and twenty-first year, and then be five years longer in ripening up to a maturity sufficient for marriage ; and by this time the judgment would be sufficiently matured to make a proper selection.

5. Theatres and theatrical dancing also inflame Amativeness, and are "the broad road" to moral impurity. Much of the fashionable music is another, especially the *verses* set to it, being most love-sick ditties, or sentimental odes, breathing this passion. Improper prints often do immense injury in this respect.

6. But nothing perhaps tends to develop or inflame this passion so much as *modern female education*. It seems as though the one main object of the education of fashionable females was to excite and gratify the Amativeness of fashionable gentlemen, to enable them to get a dashing beau and a rich husband. Most of our fashionable boarding-schools are public curses. These schools teach the *graces* and *accomplishments* mainly, which are only polite names for beau-catching, cap-setting, and such like fashionable attainments. They efface almost every element of the true woman. They teach her to screw her waist into artificial forms, and her face into artificial smiles, and to learn to say soft things very softly. They inculcate in effect the sentiment that the chief end of woman is to please the men, and pander to their depraved appetites ; that to engage personally in domestic duties is a violation of good breeding and even downright vulgarity ; that a lady must know how to draw, embroider, sing, write letters ; that dress, and show, and fashion, and splendid style must supersede all other considerations ; that extravagance is a virtue, and economy meanness : that making morning calls and fashionable parties, and telling polite lies (that is, pretending to be very glad to see persons whom they dislike, and pressing them to call again, when they hate the very sight of them), together with a thorough knowledge of the art of making love and playing the coquette, and such like fashionable flummery, constitute the main duty of woman. A recent English work devoted to teaching ladies *manners*, occupied some fifteen pages in teaching them how to get into a carriage, so as to show just enough, but none too much, of their handsome ankles, feet, &c., &c. If there be any one thing in civilised society more utterly destitute of common sense, and evincing more consummate folly, or if there be anything more totally at war with the designs and arrangements of nature than any other, it is the modern fashionable method of conducting female education.

In view of these evils, one gentleman of this city said—"I would sooner let my daughter run wild, than receive a modern fashionable education ;" and another observed, "Though I would not go to that extent, yet I would sooner see my daughters get their living by *begging*, or follow them to their graves to-morrow, than brought up fashionably." Over no evil do I mourn more—no crime do I deplore more—than the perversion of woman's nature by modern education.† I call upon woman to pause, and consider the oppressive evils

\* Every labourer will bear mo witness that these feelings are more active when they do not work than when they do.

† As soon as I can command the time, I intend to publish, in a neat little book, a LADIES EDITION of this work, which, besides being free from all expressions and allusions to which even prudish fastidiousness can object, will be expressly adapted to *woman* in the matter of marriage and education, showing her how she should be educated to become a wife and matron, and then how to choose and obtain a suitable husband.

under which she groans, and to rise and shake off her chains, and follow the dictates of her nature ; to assert and maintain her independence ; to rise from her abject servitude ;\* to assert and maintain her rights and her freedom and be herself.

## MARRY YOUR FIRST LOVE.†

I have before stated that interruptions in love *sear* and *benumb* the element of love. I do not say you cannot love a second time ; but I do say that first love experiences a tenderness, an exquisiteness, and a poetry not always belonging to subsequent attachments.

## MUTUAL LOVE CONSTITUTES MATRIMONY.

How absurd, how preposterous, the doctrine that the obligations of marriage derive their sacredness from legal enactments. How it profanes this holy of holies. Marriage is wholly divine both in its origin and obligations. No human tribunal or legislature can increase or diminish those obligations.

The happy, loving pair are always married in heaven before they are on earth ; for their agreement to live together in nature's holy wedlock is *marriage* in the sight of God, and constitutes them husband and wife. Still, since a ceremony has been instituted, it may be well to observe it as a form, if we can do it conscientiously.

The perpetuity of love's nature has provided for, and infinitely better than man can do ; and therefore man need not feel concerned about it. Let men rely on the affections of the heart alone, for their very nature is self-perpetuating. They need no law, and are above all law. Let them be properly placed at first, and they will never desire to change their object. The more we love an object, the more we wish to continue loving it ; and the longer husbands and wives live together affectionately, the stronger their love. Love increases itself. We no more need a law requiring husbands and wives to love each other than one requiring us to eat, sleep, or breathe. True love recoils from a change of objects. Let men but rely upon the law of love instead of upon the laws of the land, and they will have far more connubial happiness, and the country would hear of far fewer discords and petitions for divorce. Nor should the law ever compel two to live together who do not love each other. At the same time, the laws respecting marriage are cruelly oppressive, especially upon *woman*, whom they ought to protect.

The inference, therefore, is clear, that those whose legal marriage is prompted by motives of property, or honour, or any consideration other than mutual love, are no more husbands and wives than if they had never assented to the marriage ceremony. Does their nominally assenting to a mere man-made ceremony make them husbands and wives ? It simply legalises prostitution. It is licensed licentiousness. If they do not love each other, they cannot become husbands and wives, or be entitled to the sacred relations of wedlock.

So, on the other hand, if two kindred spirits are really united in the bonds of true, reciprocal love, whether legally married or not, they are to all intents and purposes man and wife, and entitled to all the rights of wedlock. If they have reciprocated the pledge of love, and agreed to live together as

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\* For years, the fact that Self-esteem is small in nearly all women, and Firmness rather feeble, surprised me ; but Phrenology soon opened my eyes to the true situation of woman—that of abject *slavery* to a dozen masters—to the fashions, which make her pinch her feet and screw in her waist till she can have no peace of her life ; a slave to man, especially the worst class of men—the gontee class ; and a slave to the artificial wants of man, in the family and out of it ; a slave in almost every form in which it is possible for a man to command or woman to obey.

† First love, as employed here and elsewhere in this work, refers to the first strong, reciprocal attachment, founded in esteem, and formed after the parties arrive at an age sufficient to experience the full power of love.

man and wife, they are married. They have nothing to do with law, or law with them, except so far as they may consider it expedient. It is a matter exclusively their own. And for proud and selfish parents, from motives of property or family distinctions, to interfere or break up the match, is as criminal and cruel as separating husband and wife—it is separating them ; it is a violation of the married relations ; it is *putting asunder* those whom *God* hath joined together. Ambitious mothers, selfish fathers, and young men seeking to marry a fortune, may stare or startle at this ; but any other view of marriage makes it a merely human institution, which divests it of its sacredness and dignity.

Again. For a young man to court a young woman, and excite her to love till her affections are rivetted, and then (from sinister motives, such as to marry one richer, or more handsome) to leave her, is the very same crime as to divorce her. So, also, for a young woman to play the coquette, and sport with the sincere affections of an honest and devoted young man, is one of the highest crimes that human nature can commit.

Young men and women, let these things sink deep into your hearts ! Pause and reflect ! and, in every step you take towards loving and marrying, remember that mutual love constitutes matrimony ; and that interrupting love is separating man and wife !

#### SECOND MARRIAGES.

In case a companion dies, marrying again may be a less evil than living unmarried. But I maintain that the death of a companion need not occur till too late to marry again. The proof of this startling declaration is, first, that every physiological law of our nature—every physical contrivance and adaptation of the body—fully establishes the inevitable conclusion, that, in case of the laws of life, health, and physiology were obeyed, sickness would be unknown, and death would occur only after the body was literally worn out with old age ; and secondly, that sickness and death are merely the effects of their appropriate causes, and governed by fixed laws, and therefore within our control. By applying the appropriate means (which are in the hands of ourselves, our parents, and mankind) all may be healthy, and live to a good old age ;\* so that husbands and wives need not be separated from each other or from their children by death until the former are too old to marry again, and the latter old enough to provide for themselves (extraordinary cases, of course, excepted). This renders the inference clear and most forcible, that all men and women are under obligations the most imperious and sacred to their families to take care of their health ; and to avoid all exposures calculated to shorten life. Their duties to their families are amongst their *first* duties. Their obligation to preserve their health is *paramount* ; so much of the happiness of their families depends upon their health, and the sufferings caused by their sickness and death are so excruciating and aggravated.

It should be added, that it is the duty of parents to be at home as much as possible, and in the bosom of their families, making them glad by their presence, and causing them to enjoy the sweets of domestic life. They should banish as much as possible all those unpleasant feelings engendered by losses, impositions, vexations in business, &c., and place their domestic feelings and higher sentiments on the throne, relaxing their souls, and even playing with their children. How often are angry and unpleasant feelings carried into the family to mar their joys, and how natural to pour them out upon its innocent members, not because they have done anything wrong, but

\* If this doctrine be deemed heretical or chimerical, I answer, 1st, that Charles G. Finney advocates it ; 2ndly, that Physiology establishes it to a *demonstration* ; and 3rdly, that any other view of this matter substitutes *chance* in the place of *cause* and *effect*. It is high time for mankind to know that sickness and death, in the prime of life, are merely the *penalties* of violated physical laws, and therefore *wrong*.

because we were previously in anger ! When anger has been excited, how natural to direct it to those about us, though entirely innocent ; but how *unreasonable*, especially if they be an affectionate wife or innocent children.

In regard to marriage, then, the order of nature, as pointed out by Phrenology, is unquestionably this : 1st, that the matrimonial instincts or feelings should not appear till from the twentieth to the twenty-first year : 2nd, that true love requires from three to five years to ripen into a preparation for marriage : 3rd, that by this time the moral and intellectual faculties will generally have become sufficiently matured to select the proper object upon which they may fix for life in virtuous wedlock : and 4th, that then, the happy pair, hand in hand and heart in heart, should climb the hills and walk the vales of life together, commingling their joys, their sorrows, and affections, until each becomes too old to marry again ; so that both may pay the common debt of nature nearly together, loving and marrying but once ; thus combining all the intellectuality of a mature mind with all the poetry of *first love*. This is marriage in full fruition—marriage as ordained by God, and as woven into the nature of man.

DIRECTIONS TO THE MARRIED FOR LIVING TOGETHER AFFECTIONATELY AND HAPPILY, AND FOR MAKING FAMILIES HAPPY AND NEIGHBOURHOODS AGREEABLE.

1. EXCITE EACH OTHER'S FACULTIES AGREEABLY. The following principle shows how to do this :—The activity of any faculty in one naturally excites the same faculty in others. Combativeness in one, for instance, excites Combativeness in others, while Benevolence excites Benevolence, &c. Thus, when kindness in a brother does you a favour, you are anxious to return it, Benevolence in him exciting Benevolence in you ; but anger kindles your own anger, and causes in you a spirit of resistance and resentment. For example :

Mr. Sharp\* said, angrily, to a lad, 'Go along, and bring me that basket yonder. Be quick, or I'll flog you !' The boy went tardily and poutingly, muttering as he went. 'Why don't you hurry there, you idle vagabond, you ? Come, be quick, or I'll whip your lazy hide off your back, you sauey, impudent rascal, you,' re-echoed Mr. Sharp, still more imperatively. The boy went still more slowly, and made up a face still more scornful, for which Mr. Sharp flogged him ; and, in return, the boy conceived and cherished eternal hatred to Mr. Sharp, and eventually sought and obtained revenge. But Mr. Benign said, kindly, to the same boy, 'John, will you please to run and bring me that basket ?' 'Yes, sir,' said John, and off he started on the run, glad to do the good old man a favour.

2. ADAPT YOURSELF TO THE PHRENOLOGICAL DEVELOPMENTS OF YOUR COMPANION.

Thus, if Hope be large in the husband, but small in the wife, he magnifies every prospect, and underrates difficulties and dangers ; but she, especially if her Cautiousness be large, looks at them in a light directly opposite. She fears, and perhaps frets ; he hopes and rejoices. If Anger be large or active, each will be inclined to blame the other for this difference of views. The husband, instead of chiding his wife for her groundless fears, should *encourage* her, and the wife should not place herself in opposition to the hopes and efforts of her husband, though they be exaggerated, but express her opinion, and make suggestions, and then aid him what she can. Thus should the intellects of each correct the failings of the other, and make allowance for each other's erroneous views, mutually conceding a little, till both come nearly together, and unite in a correct judgment.

\* I employ this form of expression, because it enables me to personify the organs, and thereby to embody and bring the full force of the idea presented and the principle illustrated directly before the mind in a manner more tangible and easily remembered than any other.

If Ideality be larger in the wife than in the husband, in all matters of taste, let her decision govern the choice ; and if Order be also large, see to it, that, on entering the house, you clean your feet, and do not carelessly make a grease spot, or soil, or displace anything about the house, lest you excite her anger, or permanently sour her temper. In other words, do what will *gratify* this faculty as much as possible, and *offend* it as little as may be. But let the wife remember that, if these organs be very large in her, she is liable to be particular, and make her "apple-pie order" cost herself and her family more than it comes to.

If your companion be frugal and saving, do not wantonly destroy even a paper, rag, or fragment of food, or incur any expense that is not *necessary* ; but take pains to gratify this faculty as much as is consistent, remembering that you thereby promote the happiness of your companion, and thus promote your own.

The application of this principle will be found a sovereign remedy—a real panacea—for all differences between you. Try it. That is, ascertain the phrenological developments of yourself and your companion, and then adapt yourselves to them by acceding and yielding to each other as the comparative size of the organs in each may require, and, depend upon it, it will only need an obliging disposition in you both to heal all differences that may arise.

If you ask "How does this principle direct me to conduct myself when my companion becomes angry," Phrenology answers :

*Do not get angry yourself* ; for this, instead of quelling his or her anger, will only excite it still more, and raise it into a hurricane of fury ; but just remember that it is only the momentary workings of excited Combativeness. Say nothing till your companion becomes cool, and then always address the higher sentiments. This will produce repentance and reform. Blaming the person will only make matters worse, and render you both more unhappy. "A soft answer turneth away wrath, but grievous words stir up strife." "Leave off contention before it be meddled with." "Let your own moral sentiments dictate all your conduct towards them, and this will excite their better feelings towards you, and render both of you infinitely more happy than the opposite course.

Besides, your companion may be fretful or disagreeable, because worn down by labour, care, or anxiety in business, or because feeble or fevered in body. Physical indisposition usually excites the animal propensities, producing peevishness, irritability, a sour temper, unkind remarks, &c. Such should be *doctored*, not *scolded*—they should be borne with and pitied, not blamed. Remember your *own* failings, and make liberal allowance for those of your companion. Try the mild, persuasive course ; avoid collision ; and, on points of disagreement, "agree to disagree." *Endure* what you cannot *cure* ; and, where you cannot attain perfect harmony of feeling, at least strive for peace ; and, if you cannot live together quite happily, live together as happily as possible. Never, on any account, allow a harsh remark to pass between those whose relations are so sacred as those of man and wife. Nor will this be often the case where *true* love exists, unless it should be caused by that fevered, irritated state of the body already mentioned ; for there is something in the very nature of love calculated to break down and subdue all minor points of disagreement, overlook defects, place the favourable qualities in their most exalted light, and produce a forbearing forgiving spirit. And if those who are married do not possess this spirit and pursue this forbearing course, they do not really love each other.

Another important suggestion is to be careful about giving offence in small matters. You cannot be too particular about little things. So exceedingly tender is the plant of connubial love, and so susceptible of being lacerated, that even trifles impede its growth and embitter its fruits. A single tart remark, or unkind tone of voice will penetrate the susceptible heart of a wife

who loves you, and render her most wretched ; whereas, if she did *not* love you thus devotedly, her feelings would not be so easily wounded.

#### GRATIFY EACH OTHER'S FACULTIES.

That is, if your companion have any predilections in regard to food, dress, habits, friends, &c., not only should you pursue the indulgent course, but you should *assist* in procuring the desired indulgences. True, you should not go beyond the bounds of reason, or violate your conscience, or indulge any positively injurious habit ; but in non-essentials, and in matters of gratification merely, you should oblige and aid your companion as far as possible. If your wife insist on lacing your daughter tight, or on anything else that is wrong or hurtful in itself, it is your duty to resist such wrong, though it may place you and your wife in opposition to each other ; but, if she relish any little delicacy in diet, &c., gratify her appetite as often as you can. If she fancy a particular dress, do your best to obtain it ; if she love a particular book, or study, or pursuit, or amusement, not injurious in itself, do what you can to obtain it for her ; but never compromise *moral principle*.

In like manner, wives, also, can often gratify their husbands by cooking some favourite dish, or decorating a room, or playing or singing a favourite piece of music, &c., &c.

Let husbands and wives take pleasant rides, rural excursions, and rambles, agreeable promenades, and make visits together to their friends, as often as possible ; and let them hold frequent conversations on subjects of interest and importance to both, freely exchange views and feelings, ask and receive advice ; and, above all things, let them be open and frank. If you have committed errors, confess them and beg pardon ; and let there be no item of business, no hidden corner in the heart of either, into which the other is not freely admitted. Scarcely anything is more destructive of love than concealment or dissembling.

Another means is to read to one another, and entertain and instruct each other. Let the husband, while his frugal wife is sewing, or attending to her domestic duties, read to her from some interesting work, or explain something that will store her mind with useful knowledge, enlarge her range of thought, &c., and he will kindle in her breast a feeling of gratitude that will redouble her love, and make her still more anxious to be in his company. Let him make valuable suggestions, and aid her all he can in cultivating and exercising her intellect. As he comes in to his meals, let him tell her the news of the day, as well as matters of interest that may have happened to himself while absent. Especially let him be kind to her about the house in seeing that she has good fuel prepared at her hand, abundance of water, and all the materials and conveniences required in the family in good order.

Be kind and affectionate to the children also, and amuse them, and even play with them ; for, as the mother loves her children most devotedly, nothing will gratify her more, or more effectually promote her love, than seeing her children eassessed. To make much of your children is to make much of your wife. Nor is it incompatible with the dignity of parents to play with and amuse their children. Indeed the relations between parents and children should be of the most familiar and intimate character, and calculated to endear them to each other. Austerity in parents is tyranny in its worst form. Be familiar with your children, and, as early as possible, let them become cheerful and welcome social friends in the family circle.

But there are some things which should not be done. Husbands and wives should never oppose each other in regard to the government of their children. Let there be a mutual understanding and agreement between them touching this point, and let a plan be concerted beforehand, so that the feelings of neither may be wounded by the interference of the other.

By doing and avoiding these and a thousand similar things may love be cherished and fostered till it takes deep root in the hearts of both, extend its fibres into every nook and corner of your souls, and imbues with its soft and endearing influence every look, word, and action. Practise these things, and those who even dislike each other at first (by thus removing the *cause*) may live together comfortably; and two who do not positively cherish ill-will for each other, may render themselves *affectionate and happy*.\*

## RENDERING NEIGHBOURS AGREEABLE.

A single remark, in regard to rendering neighbourhoods agreeable, and I close. Next to an affectionate family, an agreeable neighbourhood and good society become objects of desire. A contentious, tattling neighbourhood, where each is backbiting his neighbour, or indulging unkind feelings, is exceedingly annoying, besides souring the temper and lowering the tone of moral feeling. The amount and prevalence of neighbourhood scandal is really surprising; nor are religious denominations exempt from its contaminating and unholy influence. This ought not to be so. The relations of neighbourhoods should be of the most friendly and accommodating character. Let village scandal be frowned down by every respectable citizen.

One of the best means of promoting good feelings among neighbours is, to manifest and excite public spirit, to form literary and other societies.

That this work may make more and better wives and husbands, and also improve the social and domestic condition of man, is the object of its publication and the ardent prayer of its author.

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\* There is another cause and remedy for disagreement between husbands and wives, mention of which, however important in itself, might offend, and therefore I pass it, with the remark, that I am preparing another work on a similar subject, to be entitled, "The Causes and Remedies of Perverted Amativeness," which, besides giving suitable warnings to the young, and disclosing an easy and efficient remedy for morbid or powerful Amativeness, will point out *one* cause of disagreement between husbands and wives, certainly not less prolific of discord and unfaithfulness than all others united, together with its easy and effectual remedy, as well as a perfect cure for both jealousy and unfaithfulness.





# PHYSIOLOGY; ANIMAL AND MENTAL.

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## CHAPTER I.

### HEALTH : ITS VALUE AND LAWS

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#### HAPPINESS AND SUFFERING, AND THEIR CONDITIONS.

HAPPINESS is the constitutional and only legitimate product of every organ of the body, every faculty of the mind, every element of our being. To what else are all our bones, joints, and muscles adapted, both in their functions themselves, and in all that labour and locomotion which they were devised to accomplish? What but enjoyment is the constitutional product, both of the mere act of seeing and of that fund of information furnished thereby? Pleasure is the only natural function of respiration. The stomach was created to give us pleasure in eating, and in all its constitutional effects. The brain and nerve were created to furnish us intellectual and moral enjoyment. And thus of every other organ and function.

Benevolence was created to bless the needy, to pour the oil of consolation into the wounded soul, to avoid causing pain, and adorn human nature, as well as to render the benevolent man himself happy—it being more blessed to give than to receive. Parental Love is adapted both to render parents happy in providing for their children, and children happy in receiving the bounties thus bestowed on them. Ideality, exercised in harmony with its primitive function, enjoys a perpetual feast in contemplating the beautiful and perfect in nature, as well as in refining the manners and purifying the feelings of its possessor, and elevating and gracing his entire nature. Acquisitiveness was designed to give pleasure both in acquiring property and the necessities and comforts of life, as well as in providing Appetite with food, Benevolence with the means of doing good, Cautiousness with the requisites for shelter and safety, the Social Affections with family comforts, Inhabitiveness with a home, Intellect with books and the means of prosecuting scientific researches, and all the other faculties respectively with the means of their gratification. Appetite, besides yielding much gustatory pleasure, nourishes body and brain, and thereby enables them to perform with pleasure the various functions of our nature, and thus minister to enjoyment. Causality experiences happiness in studying the laws and operations of nature, adapting ways and means to ends, and thus attaining pleasure. Language, normally exercised, affords pleasure in the mere act of talking, besides supplying an exhaustless source of happiness in the interchange of knowledge, ideas, motives, feelings, in reading, hearing sermons, lectures, and the like, and in communing with one another. How vast an amount of happiness is Memory capable of conferring on man! How exalted the enjoyment we can experience in worshipping God, and in those holy emotions and purifying influences which religion is adapted to diffuse through the soul! And thus of Friendship, Connubial Love, Ambition, Perseverance, Hope, Moral Feeling, and every other faculty of the human mind! The needle does not point to the pole more universally than

every physical organ, every mental faculty, every element and function of man points to *happiness* as its only constitutional product.

The *amount* of happiness of which our natures are susceptible is incalculably great—far greater than the happiest of mortals has ever yet enjoyed, and almost infinitely greater than the generality of mortals now experience. We little realise how inexpressibly happy it is possible for us all to become. Our Creator has done all that even a *God* could do to promote this end of life. In what a paradise does man's primitive constitution place him! If he would exercise his powers in accordance with their original constitution, how holy and happy would he become!

And yet our world abounds with suffering and woe! Pandora's box, filled with all manner of diseases and miseries, has been opened upon man! Poverty, wretchedness, loathsome and distressing sickness, the heartrending decease of friends, children, and companions, and even premature death itself, tearing its victims from life and all its pleasures, afflict most of mankind! Millions suffer beyond description—many are tortured into the wish that they had never been born, or that death would hasten to their relief; while many consider our world a path of thorns, and look upon life itself as a lingering, living *death*!

Yet, little of this suffering forms a *necessary* part of any constitutional arrangement or function of our nature. Teeth are created and adapted to masticate food, not to ache; nor need they ache. The head was not made to ache, nor the stomach to occasion griping pains. Nor are the lungs adapted to torture us, or waste away in lingering consumption, blasting all our hopes and happiness. Neither malignant fevers, nor distressing rheumatism, nor torturing gout, nor loathsome, life-eating cancers, nor any other kind or degree of disease or suffering, form any part of man's original constitution or nature's ordinances.

So of the mental faculties. Was Benevolence created to torment us with the sight of pain which cannot be relieved? Or Combativeness to brawl, quarrel, and fight! Or Destructiveness to devastate whole nations with woe and carnage, making loving wives lonely widows, and happy children desolate orphans, besides creating all the horrors of the battle-field itself? Was Appetite created to gormandise at the expense of all that is virtuous and happy? Or Approbativeness to pinch the feet of the suffering Chinese, or flatten the head of the savage Indian, or deform the waists of simple would-be beauties? Or Self-Esteem to wade through seas of blood to thrones of despotism? Or Veneration to create all the abominations of Paganism, or all the bigotry of Christendom? Or Constructiveness to make implements of torture and death? Or Aquisitiveness to cheat and rob? Or Causality to plot mischief and devise evil? Or Adhesiveness to mourn in hopeless grief the loss of near and dear friends? Or Parental Love to torture us with inexpressible anguish by the death of a dearly-beloved child, or perhaps entire groups of beautiful and happy sons and daughters? Or Connubial Love to weep, disconsolate and distracted, at the grave of a dearly-beloved wife or devoted husband—perhaps, too, after every means of support has been exhausted, every child buried, every earthly hope blasted, and while torturing disease is preying upon life itself, and opening the yawning grave at our feet? *Never!* Cold and heat are not more contrary than these results are contrary to nature's adaptations.

What, then, has caused all this wide-spread misery? Eve, by eating the forbidden fruit. But that affects all human beings alike; so that, for all *its* influences, all *could* be as happy as any one ever has been or ever will be. What, then, is its cause? Hear nature's answer. The sentient world, in common with the physical, is governed by *law*, the violation of which causes pain, and its obedience pleasure.

Unless pain existed, sentinel-like, to watch and warn us against violating *law*, we should be perpetually liable to burn, or bruise, or freeze ourselves to

death, or mutilate ourselves in ways innumerable. This same principle governs equally the laws of mind, and for the same purpose, namely, to secure their observance also. The greater and more uniform the pleasure of obedience, and the more certain and fearful the pain consequent on disobedience, the better. Happiness is the most persuasive motive to goodness, and suffering the most powerful preventive of sin, which even a *God* could invent; and this double invention of rewards and punishments—the former sweetly enticing to obedience, and the latter sternly *enforcing* it—is as perfectly adapted to secure man's highest good as anything that Infinite Wisdom could devise and Infinite Benevolence execute!

That same wisdom which devised these laws has also fixed a contrivance by which they are their own executors. They are *self-acting*—necessarily inducing, in the very nature of things, their appropriate rewards and penalties. In the very *act* of obedience consists its pleasures, while in the very transgression itself consists its penalty. To obey any law is to secure its legitimate blessings; to transgress it is to insure its consequent sufferings. No escape, no evasion of either can possibly occur throughout God's vast dominions. Obedience and its consequent happiness are linked inseparably together, while sin and suffering go hand in hand throughout the universe! Neither can ever be separated from the other!

Be it then remembered by every human being, that *all* suffering is the constitutional and inevitable *consequence* of violating law, and that all enjoyment flows naturally and necessarily from obedience. Nor is it possible, in the very nature of things, to obey or violate any law whatever without inducing these results; nor, again, is it possible to experience these results except in and by such violation. No pain was ever sent by God, nor any blessing ever conferred by Him, except in conformity with these unalterable institutes of nature. Hence happiness is in as exact proportion to obedience, and suffering to sinfulness, as the God of heaven can make them.

#### THESE LAWS COGNISABLE.

Nor are these laws a sealed book to man. This would render them useless. They are open, palpable. Those who cannot discern them are blind or stupid.

Man can apply them. He can adapt means to ends; he can control effects by applying causation so as to bring about desired ends. He is, moreover, endowed with that power of choice or will which enables him to obey or violate them at pleasure, and thus to render himself good or bad, and therefore happy or miserable, according as he may determine.\*

OUR HAPPINESS AND SUFFERING ARE ANALOGOUS TO THE LAW OBEYED OR BROKEN. Each bears a resemblance to its origin. Thus the violation of the law of appetite disorders the stomach, corrupts the blood, and causes disease and suffering throughout this department of our nature. Those who violate the law of chastity experience an entirely different kind of pain, occurring in the sexual departments of their nature and their dependencies. Yet such will enjoy the benefits of whatever laws they obey.

This analogy of enjoyment and suffering to the law obeyed or broken, renders it easy to trace our respective pains and pleasures to their respective causes, that is, to the particular laws obeyed and broken, and thus enables us to find out the *causes and the remedies* of every evil experienced.

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\* Though some inherit painful diseases and vicious predispositions from parents, and thus suffer for sins not their own, and though our inter-relations with our fellow-men often cause us to suffer through their sins, yet, in the main, we obey and enjoy, or sin and suffer, *for ourselves*, and reap the consequences of our *own* conduct. Hence, by avoiding all sin we can escape all suffering. If we obey all the laws of our being we shall become as happy as it is possible for human nature to become.

Let us then apply ourselves to the *study* of these laws. Ignorance of consequences is the great parent of most of man's sufferings, and knowledge is the first great cure. A knowledge of the conditions of enjoyment and of the causes of suffering is the great thing wanted.

To *expound the laws* of man's being, and enforce their observance, should be the end of all education. As happiness is the "end of man," all education should be directed to its attainment. Yet how foreign to this object is education as at present conducted! Pupils are taught scarcely anything concerning themselves, and, of course, taught scarcely anything as to how to render themselves happy. Our educational system requires to be remodelled. We require a new set of school-books, too—school-books which will make men acquainted with *nature*, especially with their *own* nature. The school-books now in general use teach little or nothing of nature, especially of human nature.

What, then, are the principal laws of our being, by knowing and obeying which we may increase our happiness, and escape the suffering to which so many are subjected? Phrenology and Physiology answer this question. Physiology explains the laws of our physical constitution, or the conditions of life, health, and animal enjoyment; while Phrenology unfolds the laws of mind. Both combined embody man's entire nature, with all its laws.

The mind and body of man are most intimately related. There exists between them a perfect and a ceaseless sympathy. This truth is established by our own experience. Thus a clear, cold morning powerfully excites the mind, by its exciting effect on the body. Fevers enhance, and even derange, the feelings and mental manifestations, by over-exciting the action of the brain; while hunger, debility, and the like, produce a directly contrary effect. Indigestion, by deranging the physical functions, causes gloom and mental debility, and renders people irritable, misanthropic, disagreeable, and miserable. Physical inaction causes mental sluggishness; while bodily exercise quickens intellectual activity, and increases happy feeling. Excess and deficiency of food and sleep affect the mind in a similar way. Experience has taught many of our best speakers to prepare their minds for powerful effort by attention to their diet. They have found that certain kinds of food stimulate some of the propensities; while other kinds increase their ability to think and study. Temperance promotes virtue; while excess strengthens sinful desires. So with sickness and health. Many forms of sickness enfeeble the mind; while health invigorates it. Inflammation of the brain causes insanity; while utter inaction of the brain causes mental stupor. Both morality and talent are more affected by food, drink, physical habits, health, sickness, &c., than many suppose. When men have eaten to excess, or in any other way clogged or disordered their physical functions, it is impossible for them to bring their intellectual energies into full and efficient action. Our thoughts and feelings are constantly influenced by changes in our body. Changes can never take place in our body without corresponding changes in the mind. We may as well doubt our existence as question the doctrine that the body and mind reciprocally affect the other.

This reciprocity is affected by means of the brain, the great agent or organ of thought and feeling. There is a most intimate connection between every portion of the body and the brain, which makes the sympathy existing between every part of the body and the brain perfect and universal. The state of the mind is influenced by the state of the brain, and the state of the brain is influenced by the state of the body. Mind, brain, and body, bear a perfect reciprocity to each other. Those natural relations between the body and brain, and between the brain and the mind, are perfectly systematic and universal. There are no exceptions. Everything in man is related. Nothing exists in man independent of any other parts of

man; and no change can take place in one portion of man, without in some way affecting every other portion. That which excites the body, excites the brain; and that which excites the brain, affects man's mental manifestations. That which invigorates the body, invigorates the brain; and that which invigorates the brain, invigorates intellect and feeling. That which weakens or disorders the body, disorders or weakens the mind. That which restores the body, restores the mind; and that which really improves the mind, improves the body also. The body and the mind are as effectually and completely interwoven with each other as the warp and the woof in the cloth we wear.

This principle shows us how to control the mind and all its operations. It shows us how to quicken or retard its emotions, how to impair or restore its strength, how to lessen or increase its power. It shows how, by influencing the body, to throw the mind into any particular state.

It is of the utmost importance, therefore, that men should understand this principle. It is only by attention to this principle that they can secure their mental and moral improvement. Intellectual and moral excellence are man's perfection, and nothing is so important to man as rightly to understand the means by which he may secure his perfection. This is the highest order of knowledge, and gives the highest order of power. No charioteer can manage his well-trained steed more easily or effectually than the man who possesses this knowledge can manage and control his state of mind and feeling. The object of this volume is to impart this knowledge. It is intended to answer the questions: What physical conditions induce certain mental manifestations? Into what states shall we throw the body, in order thereby to promote particular moral emotions and tendencies, or enhance particular intellectual powers and manifestations?

#### HEALTH : ITS VALUE—THE POWER OF SECURING IT—THE DUTY OF SECURING IT.

Health consists in the vigorous and regular, or natural, action of all our organs or powers; while disease consists in their weak or irregular action; and death in their suspension. Health and life, therefore, are proportionate to the amount of regular or natural action of our organs and powers. Hence by increasing the regular action of our organs we increase the amount of our life and health; while by enfeebling or disordering our organs we diminish the amount of our life and health; and of all our highest pleasures. Health is life, and life is health. The value of health is, therefore, infinite. Health is enjoyment. It gives the greatest attainable relish to life and all its blessings. We cannot enjoy life without health; nor can we enjoy it except in proportion to the perfection of our health. When disease has destroyed appetite, the most delicious food and fruit only nauseate; while a keen appetite, the result of perfect health, gives a relish to the homeliest meal. The rich invalid is poor, because he cannot enjoy his possessions; while the healthy labourer is rich, because he enjoys all things. Those who have *always* enjoyed health do not fully know its value. We measure health, as we do our blessings, by its loss. We really do not prize it as we ought till it declines. What folly to trifle with health! Esau's folly in selling his birth-right was wisdom compared with the folly of those who carelessly barter a life-time of vigour for one of weakness and disease; or who barter life itself for some momentary indulgence.

An ambitious youth, to show how much he could do, worked till he was utterly exhausted—worked till he lamed his side. He has now for fifteen years been an invalid. He can scarcely do half the labour he formerly could. Some kinds of labour he cannot do at all; and when he works, he works in almost perpetual pain. That single day's overwork did him more injury than all the wealth of the world could do him good. It caused him more pain than any amount of money could ever give him

pleasure. It lessened all his powers of enjoyment, and increased the amount of his sufferings for life, and will probably shorten his life a number of years. How foolish in men thus to sacrifice their happiness and life on the altar of pride! Yet such instances of folly are not rare. Nay, multitudes are chargeable with greater folly. How many diminish their joys and shorten their lives by vicious indulgence! Not one in twenty, perhaps, do justice to themselves. Almost every one, by some unwise exposure or indulgence, has injured his health, diminished his enjoyments, and cut short his days. The men who take pains to invigorate health and prolong their lives are but few; while those who ignorantly risk or madly squander health and life, are numbered by millions.

Health is every way valuable. Health is gain, while sickness and disease are loss. Health allows you to be regular in your attention to business; while sickness takes you away, and compels you to entrust the management of your concern to others. Sickness suspends the labourer's wages, while health and vigour increase them. Sickness brings doctors' bills and other expenses, and occasions endless loss; while health enables you to look around and make the best of every opportunity that offers itself for bettering your condition. How many of our readers are now poor, who, if they and their families had been always well, would have been comparatively rich! In this country (America) the healthy need never be poor.

Attention to health is dictated by every motive. Disease is *painful*. It not only diminishes positive enjoyment, but causes positive pain. The pain it causes in some cases is indescribable, intolerable. The stone, the gout, the toothache, the tic-doloureux, inflammations, fevers, &c., often cause a degree of pain which amounts to positive and unendurable misery. Nervous disorders cause mental anguish as intolerable as the acutest and most aggravated bodily pain. Even a common cold, a tickling cough, an attack of influenza, a fit of indigestion, a bilious stomach, are no slight matters. The difference between a *slight* attack of disease and perfect health is by no means trifling. Who then would willingly pursue a course, the tendency of which is to injure his health and entail on himself disease?

Let it also be remembered, that no human being can injure health at any period of life without proportionately shortening his days. Every one will, in effect, be brought to account at the close of life, and compelled to resign it as much sooner than he otherwise would as he has injured his health during his life-time. The man, therefore, who trifles with his health cuts off a portion of his life. The man who has money in the bank cannot waste a portion daily without sooner exhausting his store. And so it is with life. Men cannot incur disease without expending a portion of the life prepared for him, and thus prematurely exhausting his stock. The more reckless you are of health, the more speedily do you bring your life to a close. Every instance of over-eating, over-working, over-straining; every piece of imprudence or profligacy or whatever else injures health, is a draft of life. It not only enfeebles your powers while life continues, but brings your life to an earlier close. On every account, therefore, should men be careful of their health. Whether they wish to prosper in business, and raise themselves to wealth and independence, or enjoy to advantage the pleasures of animal life, or promote the welfare of their fellow-men; whether they wish to acquire knowledge, reach to eminence in any department of science, or excel in any description of useful labour, let them use the necessary means to secure good health. Whatever be the end men aim at, if that end be great and good, they should do their best to perfect and perpetuate their health.

And health, to a great extent, is in our power. Some contend that sickness and death are providential—that they are not governed by regular laws. A child dies, and a parent is taught to regard it as an interposition of Providence.

A man is afflicted, and he is taught to regard it as the command of the Lord. There is a sense in which afflictions are the work of God. Afflictions are the consequences which God has annexed to the breach of His laws. But in every case affliction is the result of violated law, either in the party afflicted or in other parties under whose influence he is placed. All is cause and effect. Every one can see that some things promote health, while others injure it; that some things cause death, while others prevent it. Every one *acts* on this principle; else why do they give medicine to remove disease and turn the hand of death aside? Can they believe that God desires them to be ill, and yet use medicine to make them well? Sickness and death are no more providential than the rising of the sun. They are the necessary effects of certain causes. One man poisons himself, another shoots himself; another drowns himself;—are these things providential? No one will say they are. Yet they are quite as providential as the diseases under which men generally suffer. You see a man dying under *delirium tremens*: he has as really caused his death by his drunkenness as the suicide caused his death by his pistol. Another is dying of fever: he has caused it by over-exertion and imprudent exposure. So with respect to other sufferers. Some suffer in consequence of the sins of their parents, and others in consequence of their own sins; but weakness, sickness, disease, and pain, are in all cases the result of violated law. What we call death is natural; but when life has been well and wisely spent, men suffer as little in death as they do in life, except where they suffer through the transgression of others.

How mournful that the teachers of the people should not endeavour to enlighten men on this important subject? How mournful that some of them should preach and strive to perpetuate an error so injurious to mankind, as the notion that sickness and premature death are visitations of Providence, and not the results of violated law! Men kill themselves and their children: at times they kill them with misguided kindness, and at other times by criminal neglect; and their religious teachers, instead of revealing the awful truth to them, ascribe the whole to Providence. We wish to explode such ruinous errors, and to make men feel that life and health are placed in their own hands, and that it depends on their own conduct, to a great extent, whether they and their children are healthy and happy, or sickly and miserable. When men have done the best they know, they have a right to comfort themselves with the thought that they have done so; but they ought always to remember the principle we are inculcating, and labour to learn still more the real cause of disease and untimely death, and to employ their discoveries in improving and perfecting their modes of life.

A belief that everything is providential, according to the common notion of Providence, is calculated to perpetuate existing evil; while a belief that Providence governs men by general laws—a belief that men are entrusted with their own destiny—would have a tendency to make them thoughtful, studious, and careful of their proceedings.

The following are Mrs. Sedgwick's remarks on this subject:—

“WAS IT PROVIDENCE?”

“Take, for example, a young girl, bred delicately in town, and shut up in a nursery in her childhood—in a boarding school through her youth—never accustomed to air or exercise, two things that the law of God makes essential to health. She marries, her strength is inadequate to the demands upon it. Her beauty fades early. She languishes through her hard offices of giving birth to children, suckling, and watching over them, and dies early. ‘What a strange Providence, that a mother should be taken in the midst of life and from her children!’ Was it Providence? No! Providence has assigned threescore years and ten—a term long enough to rear her children, and to see her children's children; but she did not obey the laws upon which life depends, and, of course she lost it.

“A father, too, is cut off in the midst of his days. He is a useful and distinguished citizen, and eminent in his profession. A general buzz arises on every side: ‘What a striking Providence!’ This man has been in the habit of studying half of the night; of passing his days in his office or in the courts; of eating luxurious dinners, and drinking various kinds of wine. He has every day violated the laws on which health depends. Did *Providence* cut him off? The evil rarely ends here. The diseases of the Father are often transmitted; and a feeble mother rarely leaves behind her vigorous children.

“It has been customary in some of our cities, for young ladies to walk in thin shoes and delicate stockings in mid-winter. A healthy, blooming young girl, thus dressed in violation of Heaven’s laws, paid the penalty—a checked circulation, colds, fever, and death. ‘What a sad Providence!’ exclaimed her friends. Was it Providence, or her own folly? A beautiful young bride goes night after night to parties, made in honour of her marriage. She has a slightly sore throat; perhaps the weather is inclement, but she must go with her neck and arms bare; for whoever saw a bride in a close evening dress? She is consequently seized with an inflammation of the lungs, and the grave receives her before her bridal days are over. ‘What a providence!’ exclaims the world. ‘Cut off in the midst of happiness and hope!’ Alas! did she not cut the thread of life herself?

“A girl in the country, exposed to our changeful climate, gets a new bonnet instead of getting a flannel garment. A rheumatism is the consequence. Should the girl sit down tranquilly with the idea that Providence has sent the rheumatism upon her, or should she charge it on her vanity, and avoid the folly in future? Look, my young friends, at the mass of disease that is incurred by intemperance in eating and drinking, in study or in business; by neglect of exercise, cleanliness, and pure air; by indiscreet dressing, tight-lacing, &c. And all is quietly imputed to Providence! Is there not impiety as well as ignorance in this? Were the physical laws strictly observed, from generation to generation, there would be an end to the frightful diseases that cut life short, and of the long list of maladies that make life a torment or a trial. It is the opinion of those who best understand the physical system, that this wonderful machine, the body—this ‘goodly temple,’ would gradually decay, and men would die as if falling asleep.”

We may further remark, that health is generally *easily* attainable by men. Not only is it governed by laws, but its laws are such as men in general may readily understand and obey. Obedience to the laws of health, is, in general, easy and natural. We have not to do some great thing in order to preserve health. We have only to live in accordance with our own nature, and nature itself will secure our health. As we have said before, health is simply the natural and perfect operation of all our organs. And nature has taken the utmost pains to secure this. She has formed our bodies with the utmost skill. She has formed our bodies thus perfectly, thus skilfully, on purpose to secure corresponding perfection in every function. And unless we prevent it by violating Nature’s laws, every organ will go on from the beginning of life, till worn out by extreme old age, performing its office with the regularity of the sun, and with a power commensurate to the demands of our being. Health is as natural as breathing, eating, or sleeping. Do yourselves and nature justice, and health, and life, and happiness, will flow on as freely and plentifully as the river to its ocean home. All we have to do is to forbear doing *violence* to our nature—to forbear doing violence to our natural instincts and the laws of our being. That man is often *tempted* to violate the laws of his being is true; and it is also true that it is sometimes difficult to resist temptation. But *supposing* men to resist temptation, and persist in the course which God or nature has laid down for them, health, life, and enjoyment are the natural and necessary consequences.



It is not enough to say that it is easy to secure health and enjoyment : if we act aright, it is impossible to prevent ourselves from being healthy and happy. It requires great or long-continued violence to arrest the healthy and pleasurable functions of our being. The power of the human constitution to resist disease is quite astonishing. Many will violate the laws of their being for years, and still enjoy considerable health. Some will even shatter their constitutions, and yet recover. What would the health and enjoyment of such men have been if they had done their duty to themselves? The men who thus violate the laws of their being must of course suffer in proportion to their transgressions ; but their case still serves to illustrate the principle that health is *natural* to man—that health is comparatively easy to be secured, and that disease can be occasioned only by unnatural modes of life.

Such is the ignorance of most men in reference to the laws of their being, that they are almost always doing something calculated to injure health. They sit in-doors too much, or remain too long in heated rooms. Some take too little exercise ; others labour too much. Most people sleep in close rooms. Many eat too much, or eat wrong things. Some over-tax their minds, while others exercise their minds too little. They sit in unwholesome postures. They neglect the skin, and are inattentive to cleanliness. Some dress too warm. Many drink injurious drinks, take injurious drugs, or do a thousand other things at variance with the laws of health, or neglect a multitude of things which the laws of health require. Yet in spite of all this ignorant transgression, how healthy, comparatively speaking, many continue even till they are sixty, eighty, and some even a hundred years of age.

Alcohol is rank poison. Yet how many drink it daily, and even to drunkenness, for thirty, forty, or fifty years, and yet retain a measure of health and strength ! What quantities of poisonous drugs some take and yet continue to live ! In short, nature has done her utmost to bestow vigorous and uninterrupted health on men. She has done her utmost to protect men from disease, and prolong their lives ; and if men in general would but do *their* part, or refrain from thwarting Nature in her plans, disease would soon be rare, and health, and vigour, and enjoyment and long life, become the general lot of all man.

Even children that inherit diseases from their parents, might generally, by careful observation of the laws of health, diminish their hereditary indisposition, and enjoy good health to a good old age. The fact that people have health sufficient to enable them to become parents is itself a proof that their offspring generally may secure a fair amount of health and a moderate length of life. These points are illustrated and proved in our work on *Hereditary Descent*, and confirmed by the fact to be proved in this volume, that all diseases, taken in season, may be cured by a proper physiological regimen. Men generally, therefore, if not universally, may preserve health and escape disease if they will study and obey the laws of their being.

It becomes, then, not only our *duty* to preserve our health, but one of our *most* important duties. Neglect of this duty disables us from discharging other duties. We can neither provide for our families, nor do good to our neighbours as we ought, if we allow our health to be injured. Instead of helping and comforting our families and our fellow men, we injure and distress them when we subject ourselves to disease or premature death. The anxiety and pain which men frequently cause their relatives and friends in this way are often most distressing. If we consider the good which men disable themselves from doing, and the grief and pain they entail on their friends and kindred, by neglecting the laws of their being, we shall be led to the conclusion that such neglect is one of the greatest sins a man can commit. It is as much our duty to consult our health as it is to refrain from wantonly tormenting or destroying people. We have no more right to trifle with our health than we have to commit robbery, suicide, or murder. In neglecting our health we are, in truth, committing robbery, suicide, and murder. In

neglect of health all crime is included. We ought, therefore, to make the study of the laws of health a matter of conscience. To obtain a knowledge of the laws of health should be one of our principal objects.

To aid our readers in the accomplishment of this object is the design of this work. We shall first call attention to the laws of our being respecting FOOD.

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## CHAPTER II.

### FOOD.

MAN is so constituted that every function of life, every exercise of muscle, brain, or nerve, every operation of his being, is accompanied by an expenditure of VITALITY. We can no more propel the machinery of our frames without such expenditure than we can propel the steam engine without an expenditure of fuel. Now unless this expenditure be met by a constant supply of the *materials* of life or vitality, life cannot be sustained.

To supply ourselves with the proper kinds and proper quantities of food is, therefore, a matter of the first importance. Food is not only the material from which vitality is made, but from which all loss in the solid parts of our system is repaired. The waste in the material of which our bodies are composed is computed to equal one-seventh of the entire body annually, or the whole weight of our body every seven years. It is probably greater. All this waste, we say, is to be supplied from food by the process of digestion. If this waste be unsupplied, as is the case when food cannot be obtained, or when, though obtained and eaten, it happens not to be digested, our bodies are reduced, emaciated. If this waste continues unsupplied for a length of time, we are reduced to skin and bones, look haggard and ghastly, our strength fails, our spirits sink, and life ebbs rapidly away. So urgent is the demand for food, that when it is not supplied, the fatty matter about our bodies is taken up and used by the system; the muscular, nervous, cerebral, and other tissues follow, until all is consumed, when death at last ensues. Hence it is that fat or indolent persons can endure famine better than lean and active ones. Fat people have more within themselves to live upon than spare people; and active people live faster—consume what they have more rapidly than indolent people.

A', therefore, should see to it that they furnish the system with the food which it requires. Starvation is certain and speedy ruin. Few can live without food many days. Most are rendered faint by fasting a single day; some by omitting only a single meal, or not eating at the usual time. It is of importance that this subject of food should be well understood. Our life, our health, and our enjoyment depend on our attention to it.

MAN requires *organised* substances for food. Vegetables draw nourishment directly from the earth: not so man. *He* requires for food substances already organised. God has *provided* such substances for man in endless variety and boundless quantity, both pleasant to the taste and rich in nourishment. From this variety and extensive provision of eatables man is to make his selection. Nature neither restricts him in variety nor stunts him in quantity; she only requires him to select with wisdom, and to use with care and fidelity.

It is not *every* kind of food that is good for man. Different kinds of vegetables flourish most in particular kinds of soil, because they find in those soils the particular kind of sustenance which they require. It is the same with living things. Some are adapted to live on some kinds of food, and

others on others. Lions, tigers, and other beasts of prey, require the flesh and blood of animals; while the horse, the cow, the sheep, loathe flesh, and thrive on a vegetable diet. Even the animals that live on vegetable substances do not all live and thrive on the same *kinds* of vegetables. Some thrive best on fruit, others on grass and herbs; some feed on leaves, and others on bark. So with carnivorous animals; some require *one* kind of animal food; others require other kinds.

Though man is well nigh omnivorous, yet all kinds of food are not equally good for him. He does, in common with other animals, require particular kinds of food. Particular kinds of food are constitutionally adapted to develop certain physical and mental qualities. The natural diet of the lion and tiger is constitutionally adapted to develop *their* physiology and mentality. The natural food of the squirrel, the sheep, the shark, &c., is adapted to feed those powers by which those respective animals are particularly distinguished, and in which their perfection is placed. And thus with all other species of animals. This is a law of nature. Deprive animals of the particular kind of food adapted to them, and you weaken their peculiar powers, lower their nature, if not destroy their lives.

The simple fact that certain species of animals have a peculiar aptitude or adaptation for particular kinds of food, and that they thrive best on them—that the tiger is rendered fiercer by animal food, and loses his ferocity when fed on bread stuffs—that feeding dogs on raw beef increases their ferocity, while feeding them on a vegetable diet softens their fierceness—and that thus it is with animals generally—proves the principle that we have just laid down to be a fixed and universal law of nature.

This provision of nature for increasing particular capacities in man and brute is not only beautiful, but exceedingly useful. It not only enables us to modify the natures of other creatures, but to augment or diminish particular powers or propensities in ourselves, and thus render ourselves more intellectual, more spiritual, as a regard to our highest welfare may suggest.

The question then becomes exceedingly important—What kinds of food naturally develop particular physical and mental powers? To obtain a satisfactory answer to this momentous question should be the wish and endeavour of every human being. We ought to labour to understand this important subject thoroughly, that we may know exactly what influence particular modes of living are calculated to exert upon us. Our wish is to assist you in understanding this subject.

## AN INFALLIBLE GUIDE.

We remark then, in the first place, that appetite *unperverted* is an infallible director with respect to food. Nature has not left either man or brute to ascertain what kinds of food are best for them by chance, but has kindly furnished us all with an infallible guide in the natural relish of each animal for the particular kinds of food best suited to support and perfect it. As we have said, appetite *unperverted* will always lead animals to chose those kinds of food which are best for them, both in general and on special occasions. This principle forms part of that great and beneficent plan by which nature seeks to bestow on all the greatest amount of happiness. God has rendered the choice and use of such kinds of food as are best for us most agreeable and pleasurable. In this, as in every other case, he has connected obedience to his laws with the purest and highest enjoyment. He has caused the diet which is *best* for man to *taste* the best. He has so ordered things that eating that which nature requires enhances both the pleasure of taste and the enjoyment of life in general. This great and beneficent law pervades the whole animal creation. Thus, the lion, the tiger, and the eagle, which require for their full vigour and perfection animal food just killed, are so formed that they like such food the best; while the sheep, the horse, the rabbit, and the like,

which are formed to thrive best on herbage, have the keenest relish or the strongest liking for herbage. And so with every other animal. Nor can any kind of animal enjoy any other than its natural diet, till a vicious course, or force of circumstances, has changed, perverted, vitiated its appetite. This law, I say, is universal; and reason says it should be so. For this infallible guide in the selection of our food we should devoutly thank the Giver of all Good.

We may remark, therefore, that no one need deny this natural appetite. On the contrary, all should study how they can most completely gratify it. By gratifying in every way their natural appetite, men most effectually promote their health, and best develop all their god-like powers.

As that diet is best which tastes best, whenever the system requires particular kinds of food to meet particular exigencies we may rest assured that appetite will crave that kind of food. We may also rest assured that whatever natural appetite craves the state of the system requires. The doctrine of self-denial, as far as our natural, unperverted appetites are concerned, physiology utterly repudiates. Both in the matter of food, exercise, and everything else, physiology not only sanctions but requires self-indulgence in the highest degree, so far as our appetites and cravings are natural and unperverted. To the man who is himself, whose system is in its natural and legitimate state, self-denial is sinful, and self-indulgence, or self-enjoyment, is virtue. Bear this in mind, ye lovers of good living. This volume does not aim at restraining you from any real dainty or luxury whatever, but simply at showing you in what way you may most effectually indulge yourselves and enjoy all the luxuries and pleasures of your being.

But bear in mind that what we say of natural, unperverted appetite, is not to be taken as true in reference to perverted, vitiated appetite. When appetite is perverted it misleads; it loathes its proper food, and asks for poison. A cow on ship-board, driven at first by hunger to eat flesh mixed with vegetables, came at length to relish flesh, and could hardly be induced afterwards to return to her natural diet. Tigers have been fed on farinaceous food till they have got a liking for it; and many kindred cases of perverted appetite have been known to occur. Man's relish can be so perverted that he shall like and greatly approve what is most injurious and naturally most loathsome. The hankering after tobacco, tea, coffee, ardent spirits, malt liquors, and the like, among moderns, and the love of assafœtida among the ancients, are proofs of this. This perversion of appetite is so common in civilised life, that almost everyone is more or less its victim. Hence the popularity of many dishes exceedingly nauseating to natural appetite, and equally injurious to the human system. Though nature tells us plainly what we should use and what we should refuse, when injurious diet is habitually forced upon her for a length of time she first accommodates herself to it as well as she can, and ultimately comes to like and to crave it. Still she never enjoys unnatural food, taking all things into account, so exquisitely, so keenly, as she does her proper food. Few have any conception of the amount of table enjoyment which we should all experience if our appetites were unperverted. An unnatural appetite is always accompanied with impaired digestion; and impaired digestion robs life, so far as the palate is concerned, of its purest and its richest luxuries. The gratification of artificial and unnatural appetites occasions hosts of diseases, and innumerable instances of premature death. Its ruinous effects are truly horrible. We cannot indulge the unnatural craving of perverted appetite without enfeebling first, and destroying ultimately, both mind and body—without both lessening the enjoyment of life for the time, and bringing life at length to an untimely close.

The appetites of many are perverted very early, some even in the cradle, if not before. This work may, therefore, recommend a system of diet which, at first, may be less palatable to many than the one to which they are at present accustomed. Still, if it recommend nature's system, our readers will

do well to follow it. If it require a sacrifice at first, it will double and quadruple their pleasure afterwards. The author is no ascetic : pains and penances form no part of his religion or philosophy. His simple object is to induce men to substitute the natural for the unnatural, and the pleasurable for the painful.

And it is right to observe, that even the breaking off of unnatural habits, and the formation of correct and virtuous ones, is not altogether a piece of self-denial. It is a *present* as well as a *subsequent* pleasure. Returning from transgressions is attended, on the whole, with more of pleasure than of pain. We have every encouragement, therefore, to endeavour to ascertain our natural diet, and at once adopt it. Duty and self-interest unite to induce us to sacrifice whatever is unnatural ; and however depraved our cravings may have become, we may in time bring them back to their proper tone. Let us hearken then to the voice of our instructor, and learn and practice the philosophy of Heaven.

Two dietic systems, both capable of sustaining life, are presented to our choice,—the animal and the vegetable. The following questions therefore present themselves : Is man constituted to live exclusively on either ? If so, on which ? Or is a mixed diet best calculated to develop all his powers ? If so, in what proportion should the animal and the vegetable diet be mixed ? These are very important questions. Let us endeavour to obtain from nature an answer to them.

What then are the influences of an exclusively animal diet on man's mind and body ? What are its influences on human happiness ? What are the influences of an exclusively vegetable diet ?\* And what then are the influences of a mixed diet, and of a diet mixed in various proportions ? In short, what shall we eat in order to attain the highest pitch of human perfection and enjoyment ? It is true we know of none who advocate an exclusively animal diet for man ; yet by considering the natural and general effects of an animal diet on the human system, we may be the better able to ascertain whether a mixed diet is best, and if it be, of what proportions of vegetable and animal food that mixed diet should consist. What, then, are the natural—the constitutional—effects of animal food ? And what are the effects of vegetable food ?

We answer, first, that the constitutional effect of animal food is to excite the animal propensities more than the intellectual and moral sentiments. This point is established by the natural history of animated nature generally, as well as by the experience of mankind. The most striking characteristic of all carnivorous animals are rapacity and ferocity. Their carnivorous habits naturally develop these characteristics. Animal food, therefore, eaten by man, will naturally and necessarily develop a like rapacity and ferocity in him ; while a vegetable diet is constitutionally adapted to nurture and foster docility and goodness. It is vain to question the law that the natural diet of all animals is constitutionally adapted to nourish and develop the peculiarities of their respective natures ; and the law once established, it follows as a matter of course that animal food constitutionally develops Combativeness and Destructiveness mainly. All animated nature attests that this is an ordinance of heaven. Men cannot therefore eat flesh without, to some extent, developing ferocity. The doctrine that a flesh diet constitutionally nurtures ferocity, is still further established by the fact that ferocity is necessary in order to obtain a supply of such food. Carnivorous animals could not obtain the necessary supply of animal food without this ferocity. Without ferocity

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\* By the term vegetable diet used in this volume, is meant one composed of any or all kinds of grain, gums, fruits, and nuts ; of eggs, milk, butter, cheese, sweets, vegetable oils, and all edibles not strictly animal, as well as of vegetables proper. The term farinaceous will often be used in a kindred sense.

their sharp claws, their hooked tusks, and their powerful muscles, so strikingly adapting them to pounce upon and swallow their prey, would be as useless as swords to a sleeping child. What could a sheep do with claws and tusks? Nature has nowhere furnished these instruments of death to animals without accompanying them with proportionate Destructiveness. Destructiveness and flesh diet as naturally and as universally accompany each other as fire and heat. Were it not so, nature would not be in harmony with herself.

This concomitance of propensity and flesh diet is proved by other facts. How frightful is the roar of the chafed lion!—how terrific the yell of the exasperated tiger? Yet the roar of the lion and the yell of the tiger are only expressions of the natural destructiveness of those animals. You provoke them at your peril.

Facts still farther attest this concomitance. As we have said, take a dog of medium crossness, and feed him for months and years on vegetables alone, and you increase his docility and gentleness. But feed him exclusively on raw flesh, and you make him fierce and dangerous. By a flesh diet you inflame his Destructiveness; by a farinaceous diet you calm and tame it. Hence the known ferocity of butchers' dogs. The ferocity of meat-glutted, blood-fed dogs, is proverbial. But a tiger, caught while young, and fed on farinaceous food, became so tame that it was allowed to go about the premises unchained. It would, even after it was grown up, eat its food from the hand. The effect of animal food on man is the same as on other animals. The ancients, in training their public fighters for their bloody conflicts, in which force and ferocity were mainly required, fed them chiefly on raw flesh. Experience taught them that there was something in the diet of the lion and the tiger which kindled in man the ferocity of those beasts of prey.

The principle for which we are contending has been demonstrated on the largest scale from the earliest records of humanity to the present time. Contrast the peaceable, life-sparing Egyptians through the whole of their history, with the animal-killing and man-slaughtering Jews. The Egyptians considered the killing of animals to be a crime: the Jews regarded it as a religious ordinance. The Egyptians ate little or no meat, and were, accordingly, amiable and harmless: the Jews, from Abraham, and Isaac, and Jacob, throughout all their generations, were shepherds, and lived mainly on the flesh of their flocks, besides slaughtering immense herds on their altars, and then consuming the greater part of their sacrifices for food; and a bloodier race is not on record. Look at their David—he was truly "A MAN OF BLOOD." Look at the ravaging wars of the Jews, both with each other and with their neighbours. They form the staple of their natural history. Then lastly, look at the terrible carnage which followed their final overthrow. In short, when was the trump of war ever sounded amongst this people from the time that Abraham armed his household and slaughtered five kings, till the destruction of Jerusalem, without, as it echoed through their hills and dales, bringing together almost the entire land, both old and young, in array of battle, eager to rush upon the field of deadly conflict? And is there no relation between this peaceable character of the Egyptians and their vegetable diet, on the one hand, and the fierce and bloody disposition of the Jews and their carnivorous diet, on the other?

Again, the Greeks and Romans ate meat in abundance, and the terror of their arms attests the ferocity of their temper and disposition. The ancients generally lived on animal food, and they were, accordingly, exceedingly warlike. A comparison of those who inhabit the middle and northern latitudes, who generally eat freely of animal food, with the inhabitants of the tropics, who eat but little animal food, is equally corroborative of the principle for which we are contending.

But we need not look to other climates or other ages for the confirmation of our doctrine. That animal food excites the propensities, especially

Destructiveness, is proved by what we see in our own country (America). Savages generally live mostly on meat, and hence, to a great extent, their savage disposition. The war-whoop Indians live mainly by the chase, and behold his unrelenting revenge. See him bury his teeth in the living flesh of his captured enemy, and, tiger-like, suck with eager exultation his warm blood. Hear him pow-wow round his helpless victims, and see him, fiend-like, torture them to death by slow degrees, by the most excruciating cruelties he can inflict. Wherever flesh is the food of the body revenge is the food of the soul. Savage ferocity is the natural product of animal food. Point to a flesh-eating nation if you can, either in history or at present existing, that has not the marks of predominant Destructiveness.

And those who live *most* on flesh are most destructive. John Bull's roast beef bears some relation to his war-like valour, to his fierce achievements in the field of slaughter. Contrast with John Bull the vegetable-eating nations of the earth. The Hindoo eats no meat: he accordingly has no delight in war. The Chinese eat but little meat, and they are inferior fighters. Contrast the amiable Japanese, who eschew meat, and consider the slaughter of animals a sin, with the fierce New Zealanders, who feed on little else but meat, and who even eat the flesh of their own race. All savage nations are flesh-eaters, and the more exclusively they live on meat the more ferocious they are; whereas the humane, docile, good-dispositioned, peaceful nations of the earth, live on farinaceous food. As Destructiveness predominates in the heads and characters of all carnivorous animals, so does Destructiveness prevail in the heads and dispositions of all flesh-eating nations; and as the organ of Destructiveness is small in herbivorous animals, so is it also small in gramivorous nations. And what renders it certain that this difference is caused mainly by diet, in man as well as in brute, is, that Destructiveness is the constitutional concomitant of animal food, and is necessary in procuring such food.

Animal food also *inflames* Destructiveness, and renders it morbid, as well as large; thus rendering any given amount of it proportionately more destructive. Thus, this organ is relatively less in the Anglo-American head than in that of the Germans, Scotch, Russians, and many others; yet is relatively more **EXCITABLE**, as evinced by the Anglo-American's greater harshness, hatred, and severity of temper. The reason is, that the Anglo-Saxon American eats far more meat.

It is contended that meat gives force and energy. Admitted that it does, yet mark the kind of force it imparts: it is the force of the tiger and the wolf—force to dare and kill, not to plan and execute great works. Does the lion **ACCOMPLISH** so much more than the horse? Or is the wild bull so extra tame and feeble? Do not both the strongest and the fleetest of animals live on vegetables? The elephant and the rhinoceros eat no meat, yet their muscular power and endurance far transcend those of the lion and tiger. The deer, antelope, and gazelle, live on herbage, yet they distance all flesh-eating animals in the open chase. What flesh-eater is more sprightly and nimble than the gazelle and chamois? Since, therefore, the fleetest and the strongest of animals eat no meat, must man eat it or be weak and sluggish? Or, to apply this principle directly to man: Is the Highland Scotchman, who was brought up on oatmeal, and tasted meat no oftener than once a week, so very inefficient? Are the potato-fed Irish, when sufficiently fed, weak? Can our own beef-gourmands dig or carry more? Try, ye meat advocates. Are the meat-eating Indian and Laplander so *very* forcible? What have they ever accomplished—what triumphs ever achieved, other than with the scalping-knife and tomahawk? If meat alone gives force, one Indian would master "two pale-faces;" whereas one white man is equal to a score of red ones. The white man eats less meat, yet under every disadvantage he has driven the red man back and back again, farther and still farther upon the setting sun.

Or are the New Zealanders so very forcible, at least for good? Or the Chinese so pusillanimous, except in war? If China is not foreible in butchery, she is not wanting in any of the essential elements of energy. Look at her canals, her commerce, and her products. To call her inefficient is to misapply terms. Knock off those shackles of antiquity which bind her hand and foot to past ages, and she would soon vie with our own nation in energy and productiveness. Or hamper us with the fetters of more than three thousand years, and see how every species of public and private enterprise would be held stationary as in a vice. The rice-fed Chinese will out-do "John Bull" and "Uncle Sam," except in shedding blood. So will the herbivorous inhabitants of the Pacific Isles. But if man's CONSTITUTION demanded meat, those who fulfilled this ordinance of their natures would far exceed those who do not; whereas the fact is the reverse, and this proves a meat diet to be unnecessary to strength.

Our conviction is, that animal food does not develop muscular strength so efficiently as vegetable food. Though flesh-eating animals are strong, herbivorous animals are stronger. Since, then, meat develops propensity, while at the same time it is not necessary either to strength or force—since it animalizes and depraves, while it does no good which a vegetable diet will not do, why injure ourselves by using it?

The facts already adduced are sufficient, in our view, to settle this question. It may not, however, be amiss to adduce a few others. Take, first, a chapter in the author's history. In 1835 he changed his diet from mixed to exclusively farinaceous. Previous to this, his health was in a decline, and he was fast verging towards consumption. For a year or more following he never tasted meat, and never enjoyed as good health before or since. Nor at any other period of his life could he ever perform such mental labour, or, considering all the circumstances, write as vigorously as at that period. But the great difficulty of obtaining the diet he wanted, almost compelled him in his peregrinations to eat some meat, or else what he regarded as worse. And he exceedingly regrets a partial decline, though for twelve years his consumption of meat has been comparatively trifling; and he designs to render it still less, if not to suppress it altogether.

The experience of R. Goss is still more in point, because more thorough. He has abstained wholly from flesh eleven years, and finds grievous maladies to which he was before subject now wholly removed, his strength greatly increased, and his state of mind far more happy. He has walked—or rather run—EIGHTEEN MILES IN THREE SUCCESSIVE HOURS AND FIVE MINUTES, and finds no trouble in walking fifty miles a day.

Take Sylvester Graham. Produce the man of his age—over fifty years—so sprightly and young in constitution as he is. Yet he was once a confirmed invalid, and driven to a farinaceous diet as his only salvation from impending death. The author has never seen anyone at any age more youthful and elastic. And he seems to grow younger in constitution as he becomes older in years. Behold the change! See whether another generation does not see him still young, in all the essential attributes of youth.

Many of his staunch disciples are living witnesses that meat is not necessary to health and strength. The finest children the author has ever seen—and he has examined professionally, and therefore minutely, many thousands—have never tasted flesh. Look at Graham's farinaceous boy. But his flesh-eating girl, whose regimen her mother insisted on controlling, is in her grave. I wish my own children had never tasted, and would never taste, a mouthful of flesh. Increased health, efficiency, talents, virtue, and happiness, would undoubtedly have been the result. But for the fact that my table is set for others beside my wife and children, it would never be furnished with meat—so strong are my convictions against its utility. Every thorough vegetable experimenter of whom the author has inquired—and they are many—has borne witness to the beneficial effects of the change from flesh to vegetables.



A few who have half tried, have condemned it as injurious ; yet such have not supplied the place of the meat with the KINDS of vegetables required as substitutes. Meat is also a powerful tonic, and the reaction consequent on taking away this artificial stimulant affected them as much as leaving off ardent spirits, or tobacco, or opium affects those accustomed to them ; and they mistook the consequent prostration for permanent debility ; whereas, in due time nature would have rallied, and they would have been the more vigorous from abating the unnatural stimulant. But more on substitutes for meat when we come to treat of animal heat.

To continue with our facts. Determined to investigate this subject of flesh-eating to the bottom, and to subject the dietetic principles of this work to the tribunal of facts tried under all sorts of circumstances, besides inquiring by letter as well as verbally of all whose experience he thought could shed any light over this mooted subject, and also reading somewhat extensively, he received the following answer to one of his inquiries concerning the EXPERIENCE OF THE BIBLE CHRISTIANS, a religious sect, one branch of which resides in Philadelphia, and other branches in the old country, whose creed interdicts flesh of every description, and some of whose ancestors, for several generations, have wholly eschewed its use. It runs thus :—

*Kensington, Philadelphia, February 20th, 1846.*

Mr. FOWLER :

MY DEAR SIR,—Yours of the 16th instaut came duly to hand, and I hasten, with great pleasure, to give you whatever information I can respecting the physical effect of vegetable diet on human life, and particularly on the lives of myself and those who constitute the little religious community over whom Providence has placed me as their spiritual pastor.

The name by which we are known as a religious society is that of BIBLE CHRISTIANS. One of the peculiar doctrines of our denomination is that “Eating the flesh of animals is a violation of the first dietetic law, given to mankind by the Creator, as a guide to moral and physical health.” His laws are, like Himself, “The same yesterday, to-day, and for ever.” To transgress His laws by killing animals as food we consider sinful, and equally so to drink wine, spirits, or any beverage having the power to intoxicate. In these doctrines you will perceive we fully concur with the apostle : “It is good neither to eat flesh nor to drink wine.” So far as I am individually concerned, I may be permitted to add, that since September, 1809, I have so strictly conformed to these principles, that I have not even once tasted of either fish, or flesh, or fowl ; nor drank anything intoxicating.

Our little religious society had its commencement in Philadelphia, in the year 1817, and consisted at that time of only seven or eight members. By an act of incorporation, granted by the legislature of the Commonwealth of Pennsylvania in 1830, it is ordained that ‘none can be members of the Bible Christian Church but those who conform to the rules, regulations, and discipline of the said Church ;’ which rules require abstinence from animal food, spirituous and intoxicating liquors, initiation by Baptism, and partaking of the sacrament or Eucharist. Our present number of members, according to the above criterion of membership is seventy. Besides these there are about thirty others, more or less connected with us, who abstain from animal food and intoxicating drinks, but are not yet considered full members, Of our members there are—

2	who have lived on the vegetable system	37	years, now aged between	70—80
4	do.	do.	do.	do.
6	do.	do.	do.	do.
7	do.	do.	do.	do.
21	who have never eaten animal food nor drank anything intoxicating	25—40		
30	do.	do.	do.	under 25

During the period between 1817 and 1846, ten persons have, at different times, fallen away from our principles and returned to flesh-eating, and twelve of our number have died; four of these were children; of the others—

1	was	aged	72	years,	abstained	from	flesh,	etc.,	36	years.
1	do.		65		do.		do.		30	do.
1	do.		64		do.		do.		30	do.
1	do.		63		do.		do.		25	do.
1	do.		59		do.		do.		24	do.
1	do.		58		do.		do.		29	do.
1	do.		39		do.		do.	} each	10	do.
1	do.		36		do.		do.			

The two last died of puerpeal (child-birth) fever.

The ability of our people to work (for we all belong to the working-class, and earn our bread by the sweat of our brow,) is fully equal to the flesh-eating community among whom we live, and in several instances considerably superior. Experience and observation have convinced us that neither flesh nor intoxicating liquors are essential to physical strength, or to the long-continued endurance of laborious exertions. In a mental point of view, it is generally conceded that a vegetable and farinaceous diet is more favourable to the development of the intellect and moral faculties than a flesh or mixed diet.

When the yellow fever broke out at the foot of Market-street, in the autumn of 1818, my residence was in the immediate vicinity of the infested district, namely in Front, near Market-street. There I continued with my family, while most of our neighbours fled from the site for fear of being affected with that dreadful malady; yet we all continued to enjoy excellent health. The year following, our experience was similar. During the period of the cholera, I am not aware that any of our members were in the least affected by that disorder. My duties as a minister frequently led me to the bedside of the sick and dying poor, and often to perform the last obsequies over the dead; yet amidst all these painful duties, the same kind and merciful Providence which 'tempers the winds to the shorn lamb,' protected and preserved me in the enjoyment of uninterrupted health. You, doubtless, remember there were many conflicting rumours of opinions among eminent physicians and others, about the propriety of avoiding vegetables and fruits during the continuance of the epidemic. I have no knowledge that any of our members made the least alterations in their accustomed mode of diet during that time, and yet they all escaped suffering from that fatal contagion. In my own family, vegetables and fruits were as freely used as in former seasons, without any of us suffering any inconvenience.

In adopting a vegetable diet and abstinence from inebriating drinks, our denomination was actuated by religious principle. We believe it to be wrong to take animal life for the purpose of satisfying appetite. This faith is founded on the testimony of the Bible, and when we took this advance we knew comparatively little of the laws of Physiology. We thought that kind of knowledge belonged exclusively to the province of the physician. We have since learned otherwise, and the more we have studied Physiology and Phrenology, and become familiar with their laws, in order to enjoy health and improve our race, the more perfectly have we been favoured with that invaluable blessing.

I regret that it is not in my power at present to give you any satisfactory information respecting the number of our denomination in England, or the nature of their experience. In Manchester there are three churches in which these views of dietetics are publicly inculcated as a religious duty; and I know many persons in various parts of the kingdom who are advocates and friends of a vegetable diet. I shall take pleasure in forwarding your interrogatories to some of my friends there, who, I am persuaded, will be happy in furnishing every information in their power.

You ask for information on the subject of works advocating the vegetable

system of diet. I presume you are in possession of whatever is valuable from the American press—Graham, Alcot, Bell, etc., etc. I have already sent you my address, etc., and two or three other pamphlets. I forward you, with this, "A System of Vegetable Cookery," etc., by my friend in Manchester, Rev. Dr. Scholefield. The introduction may probably be useful to you. In a letter received from the doctor, he informs me that a very useful work is just issued from the London press, entitled, "Fruits and Farinacea the proper Food of Man; being an attempt to prove from History, Anatomy, Physiology, and Chemistry, that the original, natural, and best diet of man is derived from the vegetable kingdom:" London, published by John Churchill, Princess-street, Soho, 8vo. Price in cloth, 9s. I have not yet seen the work. There is also a work on "Water Cure," which has lately appeared in England, that goes strongly against flesh. I know of no other recent publications of the kind you are seeking.

With great respect, I remain,

My dear sir, yours truly,

To O. S. Fowler, Esq.

WILLIAM METCALF.

The author saw one of this sect in 1839, who was reputed to be the strongest man in Philadelphia. Inquire, reader, at the shrine of universal fact, as the author has done, and you will find the response, whether coming from masses or individuals, to accord with this testimony. When we see that the strongest, the nimblest, and the swiftest of animals attain their speed and power on vegetables; that man can have all the force, strength, and endurance required, without flesh as well as with it; that flesh heats the passions—already manifold too strong—and that abstainers are the happier without than with, I repeat, why impair and debase the man by eating the animal.

#### ANIMAL FOOD BLUNTS MORAL SENTIMENT.

For what could the lion, or tiger, or butcher do with an active Benevolence or Conscientiousness? Sympathy for their poor victim would prevent its slaughter—would close the lion and the tiger's jaws, and stay the uplifted knife of the butcher. Large moral organs in carnivorous animals would starve them; and large moral organs in man, unless stifled or perverted, would interdict all destruction of life for food. What well-organised child ever beheld an animal slaughtered for the first time, without almost an agony of sympathy? Or can any highly benevolent adult, especially female, endure the distressing sight unless accustomed to it? How tender-hearted woman shudders thereat and shrinks therefrom! Yet she is not unduly sympathetic. This alone brands needless animal butchery as wicked, because it necessarily violates those higher moral sentiments which constitute no inconsiderable portion of female perfection.

Condensed, the argument is this: Such slaughter blunts those finer moral feelings which should reign supreme—and, therefore, violates a fundamental law of man's nature. Of course all these violations occasion pain. Animal food is therefore injurious, because it can be procured only by violating man's moral constitution. Is God so short-sighted as to render animal slaughter—in necessary conflict with that exalted moral sentiment, Benevolence—essential to human perfection? Can any good come out of violating law?—especially of the highest order of laws? Is man COMPELLED to violate this moral law in order to perfect his nature? Is nature thus in conflict with herself?

"But brute kills brute. Then why not man kill brutes? Has God denied to us a privilege he accords to brutes?" objects one. As those coarsely organised can do many things which excite disgust and repugnance in those who are keenly sensitive and have fine feeling, so brutes can do what would shock the keener susceptibilities of humanity. Beasts of prey have little or no Benevolence to violate, and hence violate none when they slay to eat—but fulfil a law. If man had no sympathy for distress, he too might prey upon a

brute or man : but he has, and therefore must not abuse it by butchering inoffensive animals.

No faculty should ever be so exercised as to clash with the normal function of another ; because such conflict necessarily occasions great mental anguish, and violates a moral law. Hence, since the exercise of Destructiveness in slaughtering animals necessarily pains active Benevolence, such slaughter is, of course, wicked. Habit may, indeed, harden the butcher's Benevolence, till it ceases to remonstrate ; yet this leaves him so far practically destitute of it, and therefore imperfect by the loss of an essential mental element, a faculty which his mental constitution imperiously demanded him to exercise.

"But the flesh-EATER does not kill, and therefore cannot incur this guilt of blunting the moral sentiments," objects one. We answer, men do what they *cause* to be done ; so the flesh-EATER is the real slaughterer, because he gives the butcher his *order*. The *consumer* is the virtual butcher. On him the chief responsibility rests ; because he both requires the slaughter itself and directs its kind, time, quantity, manner—everything. Unless he demanded it the poor beast would not bleed. He is the monster of the slaughter-house, because every pound of flesh he eats increases the demand, and thus becomes a virtual death-warrant issued against helpless brutes.

Not that the butcher is wholly absolved. He is on a footing with the vendor of intoxicating drinks—is a VOLUNTARY doer of wrong. As when two participate in murder the guilt is doubled, not divided, so the guilt of the consumer does not lessen the sin of the butcher. Both violate nature's laws, and must abide their penalties ;—the latter in the deterioration of his finer and moral sensibilities, and the former in the injury a flesh diet necessarily induces. Butchers may be obliging, friendly, talented, and much more that is good, yet their daily occupation COMPELS them to become practically inhuman.\* We thus censure their occupation with reluctance, yet truth is "no respecter of persons," nor should its exponents temporize.

To kill animals also violates Conscientiousness. The RIGHT to life is the highest of all rights, and inviolable ; yet this right is trampled under foot by needless slaughter. What RIGHT has man to snatch unnecessarily, even from brutes, a prerogative so dear ? Their right to life is derived from nature, and should be wantonly taken by none.

"But," it is objected, "brutes were made to SERVE man." Granted ; but all admit that man has no right to inflict wanton cruelty on brutes, then how much less to perpetrate this highest possible cruelty !

"But man renders them more happy in feeding and housing them during their life than miserable in their death ;" says another. One would be required to feed and house me a long time, and render me superlatively happy into the bargain, before I should think him entitled to cut off my head ; † and if animals suffer less in death they also enjoy less in life, so that the proportion is thus preserved.

#### A FLESH DIET SUBJECTS MORALITY TO PROPENSITY.

We have already seen, first, that animal food unduly stimulates animal propensity, and, secondly, that it blunts the moral sentiments, exactly the reverse of what man's perfection and happiness require. He is almost all propensity now. His animality vastly preponderates over his morality and

\* Hence the propriety of that law which, in some places, excludes them from being jurymen, or trials which involve life and death.

† SLAUGHTER-HOUSE CRUELITIES.—The text condemns in the strongest manner those unheard-of cruelties perpetrated on animals while killing them, in order to render their meat less bloody and more tender. To keep the feet of calves and sheep tied together, in the most painful posture possible—tumble them into carts on top of one another—bang them about as if they were so many boxes and barrels—keep them

intellectuality : whereas the governing law of virtue and enjoyment requires the supremacy of morality and intellectuality. Since meat constitutionally tends to enlarge and inflame propensity, and as this is the very opposite of what human happiness and perfection require, a flesh diet must be wrong. How despicable the disposition of the tiger, shark, and hyena? Does man require to make himself like them? Would becoming more tiker-like render humanity more perfect? Is predominant propensity human glory and happiness? Would you have your children become more turbulent, quarrelsome, fierce, revengeful, hating, and hateful, more like beasts of prey? Then give them meat. Would you not rather render them more lamb-like and heavenly-dispositioned? Then feed them on a vegetable diet.

We all justly complain of the evils of society. The best of us are bad enough, and the worst are almost devils incarnate. And what but PERVERTED PROPENSITY causes the aggravated evils under which society groans? In what else does depravity consist? Or how can human wickedness and woe be obviated, except by subjugating and purifying propensity by intellect and moral sentiment? Volume II. DEMONSTRATES that virtue and happiness consist mainly in this ascendancy of the higher faculties over the lower, and that depravity and mental suffering consist in predominant and perverted propensity. These conditions of perfection and happiness on the one hand, and of sin and misery on the other, are FUNDAMENTAL. Hence, since animal food necessarily develops and perverts propensity, but blunts moral sentiment, man should abstain from eating flesh. He who does not so deteriorates his heaven-bestowed endowments, and plants thorns in the pillow of enjoyment.

A flesh diet is confessedly a powerful, though unnatural stimulant, and, like alcohol, excites and inflames, only prematurely to exhaust. This is its constitutional effect—a necessary, not accidental one. It therefore hurries its participants through life and out of life. All the mental and physical functions of vegetable eaters proceed with little friction; run smoothly and wear but little; while flesh-eating renders them hot and grating, as though the axles of life ran on gravel-stones, and this makes them wear out rapidly. Hence very aged people will generally be found to have eaten but little meat through life, and to have begun to eat that little after their constitutions had become matured. The herb-eating elephant is reputed to live nearly twice as long as the flesh-eating lion—the longest liver of all carnivorous animals.

Animal food also irritates the stomach and fevers the blood, and thus lashes up the brain, and goads on all the passions to excessive and turbulent action. What else causes that restless, dissatisfied, longing, high-pressure, grasping, envious, rapacious selfishness of the public mind, now everywhere so rife? Our fathers ate but little flesh, and were proportionably contented and pacific. Flesh-eating induces a faint, sunken, kuawing, craving, "gone" sensation at the stomach, akin to that of inebriates, but wholly unknown to

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for days together without a morsel of a food—and then, after all this living death, to hang them up by the hind feet, puncture a vein in the neck, and let them hang in this excruciating torture, faint from the loss of blood, and struggling for life, yet enduring all the agonies of death, for six or eight hours—meanwhile pelting them with might and main, to beat out the blood and render the meat tender, so that every blow extorts a horrid groan, till tardy death ends their sufferings with their lives—and all perpetrated on helpless, unoffending brutes—is a little worse than anything else, except human murder; yet this is but the legitimate fruit of flesh eating. Hear the piteous wail of these wretched animals on their passage from the farm-yard to the slaughter-house; see their upturned eyes rolling in agony; witness the desperate struggles, and hear the terrible bellowings of the frantic bullock who apprehends his fate, as he is drawn up to the fatal bull-ring; or even look at the awful expression of all amputated heads, as seen in the market, or carted through the street; and then say whether the slaughtering of animals is not an outrage on humanity—on every sentiment of right.

vegetable-eaters ; and this irritation of the stomach fevers the brain, especially the passions —, and engenders this tendency to public rapacity and vice just described ; and this shortens the public life, on the principle maintained by all physiologists, that turbulent passions hasten death, while contentment prolongs life. Animal food, therefore, kindles these propensities which shorten life, and blunts those moral virtues which prolong it—all this, besides the many diseases its use engenders and aggravates, and the cure of which it retards.

#### THE TEETH.

Again the forms of the teeth of all animals coincide with their natural dietetic character. On this point President Hitchcock observes: "From a single bone or tooth of any animal, its character, food, habits, haunts, and all the circumstances of its existence may be correctly inferred. Comparative anatomists have, from a single tooth, described and made drawings of the extinct creature to which it belonged, which have been found to agree exactly with a skeleton afterwards discovered." In short, that the teeth of every animal, known and unknown, accord perfectly with its natural food, is universally admitted ; so that the form of the human teeth will determine, with absolute certainty, the natural dietetic character of man. If constituted to eat meat, the shape of his teeth will approximate towards that of lions and tigers—his front teeth will be small and sharp ; his eye teeth, which correspond with the tusks, hooked and enormously large, and his back teeth sharp, for tearing, instead of broad for crushing ; whereas, if his natural diet is vegetable and farinaceous, his back teeth will be adapted to grinding, and his eye teeth not longer than their neighbours.

The cow furnishes a standard sample of herbivorous teeth, as does the tiger or the cat of the teeth of carnivorous animals.

And now, reader, see with your own eyes towards which of these two forms the teeth of men approximate. See for yourself that his front teeth are usually larger than his eye teeth ; and his double teeth flat, for grinding, instead of sharp, for tearing. Not one index of the carnivorous form is found in his teeth. This might settle the matter. The absence of claws in man has a kindred bearing.

"But," objects one, "a man has hands with which to kill, and reason to supply by cookery the place of tusks." This is sheer evasion, and leaves this *teeth* argument wholly untouched. It simply tries to account for the admitted omission to *tusks* in man, but is anything but a flesh-eating argument. As far as it has the least force, it tends to overthrow this principle, that the teeth determine the natural character of the food—a principle too fully established by nature to be set aside by this mere may-be.

To render assurance doubly sure, let us contrast the teeth of the monkey tribes with those of man. We know that flesh is not their natural diet, else they would kill and eat animals ; yet the form of their teeth approximates towards that of carnivorous animals much more nearly than man's do.

Since, therefore, the form of the human teeth recedes from that of carnivorous animals far more even than that of the monkey and orang-outang species, which are confessedly not carnivorous, human teeth cannot have been made to eat flesh. What can more conclusively prove the natural diet of man to be herbivorous ?

To this conclusion nearly every sound physiologist has been impelled, by this dental and other kindred arguments. The immortal Linnæus sums up this argument thus: "Fruits and esculent vegetables constitute his most suitable food." Cuvier, the highest authority on this point, sums it up thus: "The natural food of man, therefore, judging from his structure, appears to consist of fruits, roots, and other succulent parts of vegetables ; and his hands offer him every facility for gathering them. His short and moderately strong

jaws on the one hand, and his cuspidati being equal in length to the remaining teeth, and his tubercular molares on the other, would allow him neither to feed on grass nor devour flesh, were these ailments not prepared for cooking."

That distinguished physiologist, Professor Lawrence, sums up an elaborate argument on this point as follows: "The teeth of man have not the slightest resemblance to those of carnivorous animals, except that their enamel is confined to the external surface. He possesses, indeed, teeth called canine, but they do not exceed the level of the others, and are obviously unsuited for the purposes which the corresponding teeth execute in carnivorous animals. Whether, therefore, we consider the teeth and jaws, or the immediate instrument of digestion, the human structure closely resembles that of the semia or monkeys, all of which in their natural state are completely frugivorous."

Dr. Thomas Bell, in his "Physiological Observations on the Natural Food of Man, deduced from the character of his Teeth," declares that "every fact connected with human organisation goes to prove that man was originally formed a fugivorous animal." Cullen and Lamb took similar ground, and the Abbe Galani ascribed all crimes to animal destruction. Pope protests against "kitchens sprinkled with blood," and insists that "animal food engenders crime." Plutarch tells us that Pythagoras ate no pork, and wondered what first "led man to eat carcases." These conclusions, however unpopular, have been extorted from every rigid physiologist who has ever examined this subject. They are confirmed by the length of the alimentary canal, which is short in carnivorous animals, long in herbivorous ones, and long in man—about ten times the length of his body.

These two arguments, derived from the structure of the teeth and alimentary canal, do, of themselves, completely establish the dietetic character of man to be vegetable; and, taken in connection with those converging principles already adduced, and yet in reserve, establish this anti-flesh-eating principle as a fundamental ordinance of nature.

#### A FLESH DIET WASTEFUL.

Our earth is soon to be crowded with as dense a population as its utmost powers of sustaining human life, combined with the most rigid economy of its necessities, will support. This is undoubtedly the economy of nature. Hence, since a given amount of land will sustain more human beings, by about ten to one, if its products are consumed directly by man, than when given to animals, and the animals eaten as food, the economy of nature could never have been to submit to this THOUSAND PER CENT loss in order to sustain flesh-eaters; unless one flesh-eater enjoyed as much as ten vegetable eaters. If the economy of nature had really required, and therefore favoured a flesh diet, it would have arranged things so as to have supported a far greater number of flesh eaters than vegetable eaters; whereas, since it can sustain ten times as many exclusively vegetable eaters as exclusively flesh eaters, a flesh diet is in opposition to nature's general plan of economy.

To examine this matter in the light of facts. A given amount of territory will sustain probably a thousand Anglo-Americans by agriculture to one Indian by the chase. Suppose the earth already fully stocked with human beings, shall this one Indian be allowed to engross what would support a thousand human beings better than he is sustained? If the Indian will be content with the thousandth part of this territory, let him remain; but he has no right to interrupt the existence of nine hundred and ninety-nine human beings, still better capacitated to enjoy life than himself. Hence nature has so ordered it, that the Indian shall recede before the march of civilisation, unless he incorporates himself with it; because a vegetable diet can sustain so many more happy beings than the savage state. And the incorrigible Indian's punishment is just.

Carnivorous animals furnish another phase of our argument. To support

one lion requires thousands of acres. Hence, since nature abhors prodigality as much as vacuums, she ordains that the lion and all beasts of prey shall retire at the approach of man; that is, yield their dominion to him as fast as he requires it, because he puts it to so much better use than they. The principle here stated is a law of things. Shall, then, one flesh-eater be allowed to keep ten vegetable-eaters from enjoying all the luxuries of life? Human happiness is nature's paramount object. To this law *numbers* of human beings are indispensable. Since, therefore, ten vegetable-eaters can enjoy more than one flesh-eater, they should take the precedence. And flesh eating must decrease as population increases. In fact, one vegetable-eater enjoys much more than one flesh-eater. This waste of the necessities of life by flesh-eating, and this deterioration of human enjoyment, therefore, clash fundamentally with human numbers and happiness, which condemns a flesh diet as necessary to the nature of man.

It may here be argued that domestic animals, such as swine, hens, and the like, are usually kept on offal food, which man does not eat, and that the offals of the farm-yard and sty enrich the land, and thus increase its productiveness more than animals decrease its products. This argument has some force as regards a very few domestic animals, but these few would not furnish a tithe of the meat now consumed, the main bulk of which is fattened on land or vegetables set apart EXPRESSLY for that purpose. The manure made by animals can doubtless be made quite as well by piling up straw, weeds, and refuse vegetation, and letting nature fit them for enriching soil—and even by spreading them directly upon the ground, which is nature's method. Manure can also be manufactured by a chemical process, without assistance from animals. Yet perhaps a few horses, cows, and hens should be kept, and might be turned to excellent account.

If it be farther objected that nature provides for the growth of grass, especially in the tillable marshes, so that cattle can be kept without transgressing on the sustenance of man, the reply is that a limited supply of cows may possibly be beneficial; yet butter may be made from the grass or hay direct, just as good as from the cow, and four or five hundred per cent more in quantity from the same amount of provender;\* which completely refutes the objection. Another far more plausible argument for flesh is that drawn from the necessity of carbon; which, however, we shall waive till we come to treat of animal heat. It is now submitted, whether man's physical or moral perfection requires a flesh diet; whether, in fact, he is not far better—more elevated and happy, without than with it. If his nature had been adapted to it, the evidences of the consequent requisition would have been clear and palpable; whereas we find no one law of his being which requires it, but many by which it is interdicted. Facts, principles, everything bear against its use, but nothing appears in its favour.

The cravings of perverted appetite aside, say, intellectual reader, does the constitution of man require that he eat flesh? If not, we eat it at our peril. We violate law, and must suffer its righteous penalties.

One counter consideration, however, drawn from man's tendency to progression, yet remains. The opening remarks of Chapter II. develop this progressive tendency, from propensity towards moral sentiment. In the earlier stages of humanity, propensity is indispensable to clear and subdue the earth; nor is the argument of economy particularly forcible till the earth has become crowded throughout. Man may not yet be sufficiently advanced to render it imperiously necessary for him to abstain wholly from meat, but as such abstinence fulfils his nature, his progress would be greatly accelerated thereby.

Since, then, man should not eat flesh, on what shall he subsist? We

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\* This is new to us.—J. B.



answer, ON FRUITS AND FARINACEOUS FOOD MAINLY, interspersed with vegetables, nuts, eggs, and perhaps the products of the dairy. The unbolted or undressed flour of wheat, rye, oats, barley, corn, buckwheat, etc., made into bread and puddings in various forms, and seasoned with fruits and sweets, should constitute the main bulk of his diet; and to it should be added potatoes, beans, peas, beets, carrots, turnips, nuts, eggs, and a limited supply of milk, cream, butter, and cheese, though the utility of the last may hereafter come up for discussion. The warrant for this dietetic system is, first, its far greater PALATABLENESS than flesh. That it is relished better is evident. We always reserve the best part of our meals for the dessert—and that dessert consists of fruit pies, puddings, and cakes, or of oranges, nuts, and raisins, or of apples, peaches, pine-apples, berries, and the like; but rarely in meat—never except in mince pies, from five-sixths to nine-tenths of which are composed of flour, apples, sugar, cider, and spices. We paraphrase good living by “roast beef and plum-pudding.” But why place plum-pudding last? Because it is best, and therefore brought on after the roast beef; yet it is composed of flour and fruit sweetened. Similar remarks apply to all other kinds of puddings. In extra good dinners, almonds and raisins are brought on last, because best of all. How much better these fruit and flour desserts relish than meats and gravies, even after the appetite is glutted with the latter! But eat as much of the dessert first as now of meat, and then bring on your beef and pork, and they would scarcely be touched. We all know how much keener the appetite is at the beginning of meals than at the close, and yet a sated appetite likes the flour and fruit preparations much better than the meat dishes. Hence, as that *tastes* best which is best, fruit and flour constitute the natural diet of man.

Vary the experiment. Set berries and milk, and also meat, before any children you please, and after telling them to make their meal wholly of the one they like best, and they will all prefer the milk and berries. And this is true of most adults. Many readers can testify that suppers composed of milk, bread, and berries, relish better than any other meal. In the absence of berries, apples, peaches, pears, and other kinds of fruit, cooked and raw, in their place relish about as well. Peel, cut, and sweeten peaches, and tell children they can eat them with bread and butter, or that they can have meat and butter with their bread, but that if they choose the meat they must not have the peaches, and not one in a hundred will prefer the meat. Nor would one in a million prefer all meat to all vegetables and fruit. So of dried peaches or apples, stewed with raisins and sweetened. Many kinds of pears are still better. Give adults the same choice, and in spite of their perversion of appetite, consequent on eating so much meat, most will prefer the bread and fruit. Or set apple dumplings and good sauce upon the table with meat, it being understood that boarders can have their choice, but must partake of only one dish, and most will relish the fruit and flour preparations better than the meat. Or make a stew pie of flour and apples, or cherries, or berries, or peaches, green or dried, or pears, or raisins, or any other kind of fruit, well sweetened, and most will prefer it to all other eatables. And all would eat a much greater proportion of these various preparations of fruit and flour than they now do, were it not that they are considered too CHOICE and SCARCE to constitute a full meal. And thus of nuts and raisins. But for the impression that these desserts are not substantial enough for labouring men—an idea entirely erroneous—and that they are the most expensive—another idea as erroneous—people would eschew meat, and live on preparations of bread and fruit almost altogether. The same result is obtained by another variation of the experiment. Contrast the relish with which most people eat short-cake and butter, or buckwheat cakes and molasses or honey, with meat and gravy. It will still further illustrate our doctrine that preparations of flour and fruit RELISH better, especially with children, than meat.

The various kinds of cake eaten still further prove our doctrine. We calculate on supper as the most dainty meal of the three, and cake is to it what desserts are to dinner, namely, the very climax of all. This is doubly true of the WEDDING cake. Weddings are among the most important events of life, and nuptial suppers are important items of weddings; and hence no expense or pains are spared to render them the very acme of luxurious eating. And in what does this acme consist? In roast beef? In any preparation of flesh? No; but in the wedding CAKES.\* If meat were generally esteemed to TASTE the best, the married pair would send out cuts of meat instead of cake, which is never done. These tests of what the public relish best are infallible, though so common as to have escaped general observation. What supper can relish better than bread, butter, and honey, except it be short-cake, or buckwheat cakes in place of bread. How insignificant meat in comparison!

Finally after we have eaten our buckwheat and molasses breakfast, our fruit and flour or meat dinner and dessert, and our short-cake-and-butter supper, and finished off with preserves and cake, we stroll out in the evening with some loved one, and wishing to heighten our friendship by partaking together the very daintiest morsel known to the palate, we step into a confectionery—the sole object of which being to gratify the palate, it of course proffers the most dainty of luxuries—and call for what? Meat in any form? No, but ICE CREAMS, &c.; or, if in their season, STRAWBERRIES AND CREAM, or other berries in their respective seasons, because they furnish the highest gustatory enjoyment known to man—not to a few, but to all. Who loves roast beef better than rich Vergaluce pears, golden apricots, Moris white peaches, and other delicious fruits? If meat tasted best to the many, it would be the dainty dish; but ice-cream, strawberries and cream, jellies, preserves, cakes, custards, macaronis, floating-islands, blanc-mange, candies in various forms, oranges, lemonade, and the like—all preparations of flour, sugar, eggs, nuts, and fruit—make up what all regard as the real DAINTRIES.

Our proof is thus conclusive, that farinaceous preparations are more palatable than flesh; yet, as many will believe nothing not found in the Bible, and most regard as paramount authority, it also sustains our doctrine: "Butter and honey shall we eat," because these were the daintiest luxuries that could be named. *Manna* is called angels' food. Flesh was withheld in the desert except once, and then its use was accompanied with death. "What is sweeter than honey?" says Samson. Many kindred allusions show that farinaceous food was esteemed far more delicious than meat in Scripture times, and that grapes held a similar rank. Honey is frequently mentioned in Scripture as the most delicious species of eatables, and the truth of this the state of the moderns attest.

A chapter in the author's dietetic experience. Not that he sets up his own taste as a standard for others, but that others may be induced to make like experiments. With the first appearance of strawberries annually, he picks or buys, mashes, sweetens, and adds water or milk, and breaks in brown bread. This dish constitutes his only diet for breakfast and supper, and often for dinner, when he eats three meals a day. When strawberries disappear, raspberries—he prefers the black, which he cultivates—supply their place, till they give way to currants, whortleberries, and blackberries. Give me this diet, and you are quite welcome to all the flesh-pots of modern cookery. I envy not a Prince his dainties, but fancy that my living is far more delicious than his.

These gone, pears and peaches take their place. I sit down to breakfast and supper, consisting of peaches or pears, sometimes cut, mashed, watered, and sweetened, with bread, but oftener to bread and peaches or pears alone. Let the bread and fruit be first-rate, and I have no desire to taste meat, be it of the choicest varieties. I often vary the dish by adding cream or milk, in

\* The Americans have many customs which we have not.—J. B.

small quantities, just sufficient to moisten the whole. This diet serves me till November, and I always regret its departure, but intend to prolong it by raising winter pears. I sometimes vary the dish by stewing or boiling the pears in water, and add molasses, eaten with bread. Baked apples and bread, sometimes eaten alone, and sometimes cut into milk, furnish another change; and still another consists of a pudding made of potato starch,\* milk and eggs, eaten with cream and sugar, jelly or fruit. Stewed cherries furnish another variety, and so do dried fruits stewed, to which add raisins, and you make a delicious relish. Prunes stewed in water, with bread, constitute another variation. And if flesh-eaters relish their steaks, sirloins, chops, fowls, hams, or even pigeons, woodcock, cauvas-back ducks, salmon or their turtle soup, better than I do these dishes, I am, nevertheless, contented with my own fare. Understand that I LIVE on these delicious dishes, instead of eating them as relishes merely; thus making entire meals of nothing but desserts; eating them, not after the appetite has been sated and blunted with meats, but with all the keenness of fresh appetite.

Thus much for breakfast and supper. For dinner—which, however, in consequence of often postponing my breakfast till nine or ten o'clock, I frequently omit—I take often the same as for breakfast and supper; or sometimes eat peas, beans, eggs broken into water, and boiled but little, or buttermilk or sour milk sweetened, or the apple or cherry of pot pies and dumplings eaten with bread or mealy potatoes, or rice with molasses, milk, or fruit, or custard and bread, or bread and apples, &c., &c. Greens, squashes, melons, onions, beets, turnips, pumpkins, especially pumpkin pies, I relish without meat; but eschew cucumbers, radishes, green Indian corn,† and all fresh-cooked flour victuals, such as short-cakes, the crust of dumplings and pot-pies, &c. I once loved cucumbers and green corn,‡ but found they injured me, and discontinued them years ago, and have now lost all relish for them. Similar abstinence will conquer any and all vitiated cravings. Radishes may do well enough when boiled, and cucumbers and corn when ripe, or fried, yet others are quite welcome to the PAINS consequent on eating them while crude and uncooked.§

My winter and spring diet consists mainly of bread and apples, the latter generally uncooked, but sometimes stewed or baked. Sweet apples are preferable, because they contain much more saccharine than sour. Corn cracked and hulled, commonly called hominy, is another favourite dish, and so are Indian-meal and oatmeal gruels, and also oatmeal, Indian rye, and wheat mush, the flour for the last two unbolted. I eat honey freely in winter. Nor are split-peas, or white beans made into soup for dinner one day, and the remainder baked the next, such poor fare as to be allowed to fall into disuse. But of these hereafter. Give me my farinaceous diet for GUSTATORY pleasure merely, as well as health, and you may have the meat. Nor would I give my diet in exchange for that of kings and queens, were it only for its deliciousness.

If objection be raised to this diet on the score of expense, it is claimed that it is certainly CHEAPER than flesh. All kinds of grain are cheap compared with meat, and any one can raise fruit enough for family consumption, on a small piece of ground, or buy it with far less money than the same amount of nourishment costs in the form of meat. Apples and flour are the cheapest kinds of food eaten, and would be much cheaper if less grain were given to cattle, and pastures converted into orchards. But excuse is nothing where health is concerned. That diet is cheapest in the end, be its first cost what it may, which best sustains mind and body. But this matter of expense is foreign to our present inquiry, which appertains to the PALATABLENESS of food.

\* It is called arrow-root in England. It would not sell under the name of starch.

† Yet green Indian corn is one of the finest of all dishes.—J. B.

‡ I ate constantly in America, and found no inconvenience, from it whatever.—J. B.

§ I seldom ate the corn uncooked.—J. B.

Having shown that that diet is best which *tastes* best, and that preparations of bread, sweets, and fruits are more delicious than meats, it follows that bread, sweets, fruit &c., are best for man, and are his natural diet.

Our gustatory argument in favour of a farinaceous diet derives additional force from the fact that meat blunts the taste, especially if highly peppered and spiced. Of this Casper Hauser furnished a striking example; and all will confirm it who will try the two, say a year each, or long enough for the taste to become regulated. My own experience accords with this principle; and I submit to all who have changed their diet from a mixed to one exclusively vegetable, whether the mere pleasure of eating has not been doubled in consequence. My full conviction is that mankind, by following the farinaceous system, eating temperately, and adopting the right mode of cookery, might double their pleasures of taste several times over. Appetite palsied can have little relish for anything. Hence, since a flesh diet blunts that keen natural relish on which all table enjoyments depend, besides being less palatable, why curtail those enjoyments by eating meat? Mark how all collateral aspects of our subject favour a farinaceous diet, but bear against flesh.

#### A BREAD AND FRUIT DIET NOURISHES MORAL SENTIMENT

We have seen that animal food kindles propensity. As propensity has its natural diet, moral sentiment and intellect have theirs, namely, a FRUIT AND FARINACEOUS DIET. All farinaceous animals are docile and kindly disposed, as the sheep, cow, horse, and the like.

Then look at the organs called into action in PROCURING farinaceous food. While animal food cannot be procured without a violent exercise of destructiveness, &c., nor without also violating the moral sentiments, farinaceous food is procured by the exercise of intellect and moral sentiment. Thus, agriculture is a true science, and requires a great amount of knowledge and intellect for its successful prosecution, and is calculated to develop that intellect. Now the very nature of things requires that fruits and grains should feed those faculties required in procuring them. Were it not so, nature would not be true to herself, for one of her ordinances is that all food should feed those faculties in particular which are most called into action in its pursuit.

In conclusion, readers, which one of all our arguments is not amply sufficient, in and of itself, to prove that the natural dietetic character of man is farinaceous, and not carnivorous? Scrutinise each separately, and then scan them all collectively, with rigid intellectual optics, and then say whether, taken collectively, they do not completely interdict meat, and prove a grain, esculent, and fruit diet to be the only one provided and allowed by nature, and, of course, the one most promotive of human and personal happiness and perfection. Do not those who eat meat violate their natures, and therefore eat it at their peril? Do not those who live on fruits and vegetables fulfil natures dietetic ordinance, and thus reap their reward? Are they not infinite gainers by eschewing meat, and living luxuriously on grains and fruits?

The only shadow of doubt now remaining as to the fitness of an exclusively farinaceous diet for human sustenance, depends on the answer to this question: Do vegetables contain all the elements which enter into the human system, and are required by the vital process? If so, our argument is complete. And who can answer this question equally with the great Liebig? His "Animal Chemistry," one of the most profoundly philosophical works on this subject ever written, thus answers this question:—

"Two substances require especial consideration, as the chief ingredients of the blood. One of these separates immediately from the blood when withdrawn from the circulation. It is well known that in this case blood coagulates, and separates into a yellowish liquid, the SERUM of the blood, and a gelatinous mass, which adheres to a rod or stick in soft, elastic fibres, when

coagulating blood is briskly stirred. This is the FIBRINE of the blood, which is identical in all its properties with muscular fibre, when the latter is purified from all foreign matter.

"The second principal ingredient of the blood is contained in the serum, and gives to its liquid all the properties of the white of eggs, with which it is identical. When heated it coagulates into a white elastic mass, and the coagulating substance is called ALBUMEN.

"Fibrine and albumen, the chief ingredients of blood, contain, in all, seven chemical elements, amongst which nitrogen, phosphorus, and sulphur are found. They contain also the earth of bones. The serum retains in solution sea salt, and other salts of potash and soda, in which the acids are carbonic, phosphoric, and sulphuric acids. The globules of the blood contain fibrine and albumen, along with a red colouring matter, in which iron is a constant element. Besides these, the blood contains certain fatty substances in small quantity, which differ from ordinary fats in several of their properties.

"Chemical analysis has led to the remarkable result that fibrine and albumen contain the same organic elements, united in the same proportion, so that two analyses, the one of fibrine and the other of albumen, do not differ more than two analyses of fibrine, or two of albumen respectively do in the composition of one hundred parts.

"Both albumen and fibrine, in the process of nutrition, are capable of being converted into muscular fibre, and muscular fibre is capable of being reconverted into blood. These facts have long been established by physiologists, and chemistry has merely proved that these metamorphoses can be accomplished under the influence of a certain force, without the aid of a third substance, or of its elements, and without the addition of any foreign element, or the separation of any element previously present in these substances.

"The nutritive process is seen in its simplest form in the carnivora. This class of animals lives on the blood and flesh of the graminivora; but this blood and flesh is, in all its properties, identical with their own. Neither chemical nor physiological differences can be discovered.

"In a chemical sense, therefore, it may be said that a carnivorous animal, in supporting the vital process, consumes itself. That which serves for its nutrition is identical with those parts of its organisation which are to be renewed.

"Chemical researches have shown that all such parts of vegetables as can afford nutriment to animals contain certain constituents which are rich in nitrogen; and the most ordinary experience proves that animals require for their support and nutrition less of these parts of plants, in proportion as they abound in the nitrogenised constituents. Animals cannot be fed on matters destitute of these nitrogenised constituents.

"These important products of vegetation are especially abundant in the seeds of the different kinds of grain, and of peas, beans and lentils; in the roots and the juices of what are commonly called vegetables. They exist, however, in all plants, without exception, and in every part of plants in a larger or smaller quantity.

"When the newly expressed juices of vegetables are allowed to stand, a separation takes place in a few minutes. A gelatinous precipitate, commonly of a green tinge, is deposited, and this, when acted on by liquids which remove the colouring matter, leaves a grayish white substance, well known to druggists as the deposit from vegetable juices. This is one of the nitrogenised compounds which serves for the nutrition of animals, and has been named VEGETABLE FIBRINE. The juice of grapes is especially rich in the constituent, but it is most abundant in the seeds of wheat, and of the cerealia. It may be obtained from wheat flour by a mechanical operation, and in a state of tolerable purity; it is then called GLUTEN, but the glutinous property belongs not to vegetable fibrine, but to a foreign substance, present in small quantity, which is not found in the other cerealia.

"The second nitrogenised compound remains dissolved in the juice after the separation of the fibrine. It does not separate from the juice at the ordinary temperature, but is instantly coagulated when the liquid containing it is heated to the boiling point. When the clarified juice of nutritious vegetables, such as cauliflower, asparagus, mangel wurzel, or turnips, is made to boil, a coagulum is formed, which it is absolutely impossible to distinguish from the substance which separates as coagulum, when the serum of blood or the white of an egg, diluted with water, are heated to the boiling point. This is VEGETABLE ALBUMEN. It is found in the greatest abundance in certain seeds, in nuts, almonds, and others, in which the starch of the graminæ is replaced by oil.

"The third nitrogenised constituent of the vegetable food of animals is VEGETABLE CASEINE. It is chiefly found in the seeds of peas, beans, lentils, and similar leguminous seeds. Like vegetable albumen, it is soluble in water, but differs from it in this—that its solution is not coagulated by heat. When the solution is heated or evaporated, a skin forms on its surface, and the addition of an acid causes a coagulum, just as in animal milk.

"These three nitrogenised compounds, vegetable fibrine, albumen, and caseine, are the true nitrogenised constituents of the food of graminivorous animals; all other nitrogenised compounds, occurring in plants, are either rejected by animals, as in the case of the characteristic principle of poisonous and medicinal plants, or else they occur in the food in such very small proportion that they cannot possibly contribute to the increase of mass in the animal body.

"How beautifully and admirably simple, with the aid of these discoveries, appears the process of nutrition in animals, the formation of their organs in which vitality chiefly resides. Those vegetable principles, which in animals are used to form blood, contain the chief constituents of blood, fibrine, and albumen, ready formed, as far as regards their composition. All plants, beside, contain a certain quantity of iron, which reappears in the colouring matter of the blood. Vegetable fibrine and animal fibrine, vegetable albumen and animal albumen, hardly differ even in form; if these principles be wanting in the food, the nutrition of the animal is arrested; and when they are present, the graminivorous animal obtains in its food the very same principles on the presence of which the nutrition of the carnivora entirely depends.

"Vegetables produce in their organism the blood of all animals, for the carnivora, in consuming the blood and flesh of the graminivora, consume, strictly speaking, only the vegetable principles which have served for the nutrition of the latter. Vegetable fibrine and albumen take the same form in the stomach of the graminivorous animal, as animal fibrine and albumen do in that of the carnivorous animal."—LIEBIG'S *Animal Chemistry*.

Liebig's concluding paragraph answers our question affirmatively, and in the most conclusive manner, by showing that even the carnivora are nourished solely by those chemical elements derived from the vegetable food of their prey! So that even the carnivora live, after all, on vegetable aliments. Rigid scientific analysis, therefore, sustains our position, that animal food is unnecessary to human sustenance. And the fact that many have lived half a century or more without tasting of animal food, and enjoyed all their powers and faculties, bears a kindred testimony; for if animal food furnished a NECESSARY element of diet, which could not be obtained anywhere else, all those who wholly abstained from it would soon feel its want, become enfeebled, pine away, and die; whereas many of them become every way improved in mind and body by such abstinence; and this shows that the human system CAN obtain from vegetables all it requires to perfect all its functions.

## BREAD, PASTRY, FRUIT, MILK, SWEETS, BUTTER, AND ESCULENTS.

Having thus found nature's great requirement in a farinaceous diet, we proceed to fill up this outline by examining more in detail the nutritive properties of the different edibles found in the vegetable kingdom. Of these, bread is beyond question the most important—is the veritable "STAFF OF LIFE," and therefore deserves primary consideration; and the more so, since the materials of which it is made are used in composition with almost all other kinds of food.

Bread is made chiefly of GRAIN, of one kind or another, crushed or ground into flour, which is usually bolted.\* Thus far, these grains have constituted the great staple of human diet. From time immemorial, and in all nations, except the most degraded savages, they have been the chief reliance of the human family as food, and will undoubtedly continue to be so as long as the race exists. Other forms of food may be generally introduced, as potatoes have lately been, yet never to take the place of "flour victuals," but only to *accompany* them. With many kinds of food we do not eat meat, but we eat bread with all kinds, and more bread usually than anything else. We make flour, both fine and coarse, bolted and unbolted, into various forms of food, both with shortening and without, both with and without sweetening. We prepare food with various kinds of flour, single and mixed, as all wheat, all rye, all Indian, all barley, all oatmeal, all rice, or part meat and part Indian, or "rye-and-Indian," or "wheat-and-rye." We also boil each of these kinds of flour into puddings, the main ingredients and dietetic uses of which are the same as bread, or shorten, sweeten, and fry them in fat, making crullers, dough-nuts, and nut-cakes; or shorten and add fruit, as in the manufacture of apple-fritters, and pies of all kinds; or thickened into soups of all kinds, or made into "dressings;" and thus we work them into nearly all the food we eat. Even meat-eaters live mainly upon them, and so do many species of animals. Undoubtedly, after-ages will discover and perfect many other kinds of grain now growing wild in our swamps, or mountains, or forests, as a recent age has Indian corn. But cereal grains will always be a staple article of food.

These grains are simply seed, and all seeds contain nourishment, in order to feed the sprout till it can put forth its roots and draw sustenance from the earth. And it is this nutritious principle, stored up for the purpose of nourishing the plant in embryo, which sustains human and animal life. And the probable reason why the flour of grain forms the best species of nourishment for man is, that it is so highly organised and so condensed. It can also be ground fine, and by proper management preserved for years.

Chemically analysed, wheat, the best of the entire cereal family, is said to contain eight-tenths of nutritious substances; rye, barley, and oats, about the same; rice, nine-tenths, and Indian corn about seventh-tenths; while meat is said to constitute only about five-and-a-half tenths.

Bread being thus promotive of life, its proper preparation, so as to render it as nourishing as possible, becomes a matter of the utmost importance.

After the grain is duly cleansed, it is first ground. And here two egregious errors are committed. The weight of the stone and its rapidity of motion, both crush it so fine and heat it so hot, as essentially to impair its nutritive properties. Hence flour is often said to be dead; much of its "life" or nutrition having been destroyed. Indian meal suffers much from being similarly "killed," as is evinced by its far greater sweetness when coarse ground, than when ground extra fine—warrant enough that excessive grinding impairs the nutritive properties.

Grain is ground thus fine that it may be bolted the more finely, so as to become the whiter. But shall looks be allowed to impair the quality? The

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\* We say dressed.—J. B.

bran, or at least a good portion of it, left in, greatly improves its nutritive powers—else nature would have allowed us to separate it from the flour without grinding the flour to death. The flour also greatly promotes that intestinal action so essential to digestion. Its absence tends to cause that torpor of the digestive organs and consequent constipation, which paves the way for those stomach complaints to be noticed hereafter. Give fine flour to hens, cattle, horses, or any other animals, and it will soon disorder them, and breed disease. And if man were not stronger constitutioned than any other animal, it would break down and bury all who eat it. Indeed, as it is it is consuming its consumers by hundreds of thousands; not suddenly, but gradually, by impairing digestion, and thus inducing other diseases, to which death is ascribed. All who eat coarse and unbolted flour bread will thereby obviate much of their sickness. It keeps the intestinal canal open, and this carries off those causes of disease which fine flour bread, by inducing constipation, retains in the system to engender sickness. Nothing but dire necessity ever induces me to live on fine flour bread. It immediately occasions intestinal sluggishness and disorder in the stomach, and, in consequence, greatly enhances dyspeptic\* troubles. I even pen this paragraph after having recovered from the worst dyspeptic attack I have experienced for years, brought on by eating fine flour bread, and a very little meat. Give me my coarse brown bread and good fruit, with opportunities for exercise, and such troubles as in this instance soon disappear.

Brown bread also tastes better than superfine, as all who will make trial can perceive—a further conclusive proof of its superiority. Our New England ancestors ate coarse bread made of rye and Indian meal, and lived longer, besides enjoying far better health, than their fine flour-fed descendants; and the Scotch oateake and porridge-eaters rarely know how dyspepsia feels till they exchange them for “killed” flour bread. Dyspeptics also find coarse bread indispensable; and what is thus indispensable to weak stomachs, would of course go far towards keeping strong ones right. Even sailors cannot live on fine flour bread; much less our sedentary classes.

Besides the nutriment of fine flour bread is too highly condensed. Sugar is highly nutritious; yet, eaten alone, it soon disorders digestion, because there is too much of it in too small a compass. A due amount of bulk is essential to perfect digestion. The bran thus helps to “fill up,” and besides restraining over-eating, gently irritates the intestinal coating, and provokes action. Still, your fine flour lovers are quite welcome to your insipid and half “killed” white bread; no earthly motive but absolute starvation would induce me to partake with you more than a few meals at a time.

#### LEAVENED AND UNLEAVENED BREAD.

To raise the bread is the next process in its preparation. This consists in causing fermentation, by which a gas is generated, which insinuates itself among the doughy mass, and thus raises it, or renders it porous.

This portion of the bread-making process is also greatly overdone. Fermentation is the first stage of decay. It creates the gas by souring the dough; nor is it possible to raise it without *proportionally* souring it, because, from the souring alone, is this raising gas derived, though habit prevents our perceiving the sourness. But let it stand a little too long, and it tastes very sour. Unleavened bread will also keep twice or thrice as long as that which is raised. Of this, ship bread, Boston crackers, and Graham wafers† are examples. This leavening is incipient decomposition and from the gas evolved

\* *Dyspepsia* is the Greek word for indigestion. Dyspeptic troubles mean the pains occasioned by indigestion.—ED.

† Graham wafers are a kind of thin cakes made by Graham, the American physiologist, I suppose.—F.



during the baking, alcohol in large quantities can be obtained ; and alcohol is the child of rottenness, or decomposition. How is yeast obtained ? By excessive fermentation : and the world over, the fermenting process is the rotten process. This incipient decomposition is introduced by the yeast into the dough, and of course impairs its virtue. Hence, excessive fermentation is highly injurious.

And herein consists my unqualified opposition to "bakers' bread." It is fermented almost to death in order to make the greatest possible loaf out of the least flour. People love to be gulled. If two loaves, both containing the same quantity and quality of flour, but the one puffed up by excessive fermentation, and the other not thus injured, though abundantly light for utility, were proffered for selection, nearly all would prefer the hollow bulk, though they knew it to be inferior to the smaller, though better loaf. This tempts bakers to contrive all sorts of devices to swell their loaves ; and, to neutralise the souring, they put in ammonia, and other things which vitiate the bread. I would eat bakers' bread rather than actually starve ; but I would eat it sparingly, and only take one or two meals in succession. Nothing but dire necessity could induce me to live habitually upon it.

Bread raised by sour milk and saleratus is less, if at all objectionable, because the gas which raises it is created, not by decomposition, but by the chemical combination of the acid of the sour milk with the alkali of the saleratus, and raised too quickly to allow the dough to sour. I recommend its frequent, if not general substitution for bread raised with yeast. "Milk emptyings" bread besides being whiter and sweeter than that made with yeast, is more wholesome. It becomes light before it sours, and is universally used throughout the West.

Let bread be made, then, of coarse flour, unbolted ; let it be raised with saleratus or milk emptyings, and not unduly bloated up ; let it be thoroughly baked, and never eaten warm ; for then mastication rolls it up into firm masses which the gastric juice penetrates with difficulty. Let this bread be eaten more abundantly than any other article of diet.

The Eastern nations live almost wholly on rice, and the Scotch live much on oatmeal. The former contains a greater proportion of nourishment than any other article of diet, and the virtue of the latter is attested by the powerful frames and strong constitutions of the Highland Picks. Fortunately, oatmeal is coming into general use amongst us, and I hail and would promote its introduction. As a diet for children, when eaten with milk, it probably has no superior, if any equal.

The dietetic virtue of rye is not generally appreciated. Unbolted rye-flour, made into hasty pudding, is one of the most easily digested things which dyspeptics can eat. It is also exceedingly palatable. Rye bread is nutritious, opening, and, but for its colour, would undoubtedly rival wheat. Try it as a change.

Barley bread was once a staple article of diet. May it again become a general favourite. The distillery should no longer be allowed to consume so wholesome, palatable, and excellent an article of food.

Pastry, eggs, and spices, next come up for consideration. Cakes and pies are rarely eaten as food, but usually as a relish merely. They are generally deemed unwholesome, and justly so, because composed of flour and grease or shortening sweetened—a compound exceedingly difficult of digestion. Flour sweetened is not so bad ; but when shortened as well as sweetened, the stomach dissolves it with extreme difficulty. Melted butter is extremely hard of digestion, and hence the unsuitableness of cake for children. Spices still further aggravate the evil.

Bakers' cake \* is still more injurious. Great quantities of ammonia—a

\* A sort of sponge cake, I believe.—J.R.

poison of which hartshorn is made—are put in to render it light; and to all this is added coloured coatings, composed of poisonous ingredients. Domestic cake is bad enough, but bakers' is utterly unfit even for the adult stomach, much more for the juvenile.

If any doubt remain of the unwholesomeness even of domestic cake, the following receipts must effectually remove it:

**POUND CAKE.**—"A pound each of butter, sugar, and flour, and ten eggs." As ten eggs weigh a pound, of course, half the cake is butter and eggs, and only one quarter flour, and that completely saturated with sweet, grease, and eggs, baked an HOUR. Now we know that eggs cook abundantly in five minutes, and become extremely tough and hard in ten; and since hard-cooked eggs are universally conceded to be difficult of digestion, what must they be after being baked an hour, and in fat and flour?

Sponge-cake consists of only one-fifth flour, two-fifths eggs, baked to a crisp, and the remainder sugar. Shrewsbury cake contains one-third flour, above one-third butter and eggs, and the remainder brandy, sugar, and nutmeg—a most deleterious compound. Jumbles are composed of about one-third flour, one quarter sugar, and above one-third of eggs, milk, and butter. Soft cakes contain nearly half melted butter. Butter and eggs make up above half of a cake called WONDERS; and wondrous unhealthy it must be. Above half of even plain gingerbread consists of cream, butter, molasses, and ginger. Of composition cake only one-fourth is flour, and nearly three-fourths eggs, butter, cream, and brandy; a full quarter being melted cream and butter. In view of the four facts, first that melted butter, and of course fat and cream are among the most indigestible things eaten; secondly, that about half of most of our cakes are composed of these articles; thirdly that about one quarter consists of eggs baked nearly or quite an hour; and fourthly, that grease mixed with flour is digested with extreme difficulty, it is submitted whether these cakes are not, of necessity, most unwholesome. Add to all this, that nearly a fifth of the frosting of bakers' cakes is composed of oxides of lead, to impart colour; and then say who that eats cake but must impair the stomach, engender disease, and hasten death? Our ancestors ate little of such cake, yet their descendants think they cannot live without it; and a mistaken kindness gives it to children as freely as if it were the staff of life, and aggravates the evil by giving it "between meals"—of which more anon.

Pies may be rendered wholesome or unwholesome, at the option of the baker. The union, however intimate, of bread and fruit, forms the best diet in the world. Keep out shortening and spices, and you may live wholly on pies. An excellent crust can be made of flour, potatoes and milk, or water, without shortening. But I recommend such pies and all pies to be eaten, not after a full meal, but as *part* of it. And if cakes must be eaten, let them be eaten at breakfast instead of supper.

Though we have spoken against eggs in cake, because baked so extremely hard, and co-mingled with melted grease, yet eggs, properly cooked, are undoubtedly wholesome and nutritious, as they certainly are exceedingly palatable. They contain great quantities of carbon, and also gluten, fibrine, and the very compounds required by the animal economy. They are especially good for children. Yet very much depends on the mode of cooking them. Fried in grease as "ham and eggs" or "pork and eggs," they are hard of digestion, as well on account of being generally overdone, as saturated with melted grease. Poached eggs are liable to a similar objection. But soft boiled eggs, eaten with bread or other substantial food, are as useful as they are delicious. We recommend little if any butter or salt with them, because a little practice will render eggs better alone than seasoned. Butter, salt, pepper, everything mixed with them, takes from, or obscures the taste of the eggs; yet it is this taste which makes us relish eggs as eggs.

Spices and seasoning thus come up for consideration. Most seasonings are

decidedly injurious. Their very nature is irritating, heating, feverish. Like alcoholic liquors, they stimulate temporarily, only to debilitate ultimately. They impart no inherent, protracted vigour to the system, but only goad, lash up, and then prostrate. Especially do they irritate, disease, and prostrate the stomach; and, this organ diseased, the entire system suffers.

They also blunt the taste and disorder the appetite. They necessarily, and always, benumb the nerves they touch, and of course deaden the power of taste, as well as deteriorate natural relish. They induce to eat too much, because they necessarily stimulate, and because natural relish being blunted, we eat and keep eating, vainly attempting to make up in the quantity of food that gustatory pleasure lost by this blunting of taste. They also weaken the salivary glands. Mustard, pepper, cloves, ginger, cinnamon, and the like, I never eat; nor would I under penalty of deteriorated relish and dyspeptic consequences.

Finally, let the principle, that whatever takes away from the natural taste of food, thereby impairs the luxury of eating, be always borne in mind and put in practice. The deliciousness is in the food, not the spices—in the bread, not the butter, or gravy, or sauce, or other things eaten with it as relishes. And if we cannot enjoy simple food simply prepared, we cannot enjoy it with all the "seasoning" (improperly so called) with which it can be cooked or eaten. Whatever is fit for food nature has already seasoned for us better than art can season it. And since condiments both obscure nature's rich flavours and blunts our powers of perceiving them, to say nothing of their deleterious consequences, practical wisdom dictates that food should be eaten with as few spices and relishes as possible. Yet modern cookery is all seasoning—a total perversion of nature's dietetic principle.

Confectionery is so closely allied to pastry as to deserve a passing remark. Ice-creams are probably not objectionable. They may be eaten at, or after meals, with comparative impunity, provided they are allowed to melt first. But candies in all their forms are very detrimental, first, because so very rich; second, because coloured with poisonous ingredients; third, because usually eaten between meals or late at night; and especially because they pervert the relish, so that natural food tastes insipid, and rich food is sought to fill the vacuum they create. They are exceedingly liable to sour on the stomach, which they always overload, and thus stupify the brain, breed worms, and incite disease. Children especially should never be indulged in them. They also soon ruin the teeth. This is a sure sign that they first impair the stomach. But of these relations of the two to each other, hereafter. Confectionaries are public curses.

Fruit next deserves consideration. Good fruit is one of the most delicious articles man can eat. Honey and sugar are most delicious at first but they soon cloy, because their nutrition is so highly concentrated. Not so with good fruit. Let a person moderately hungry, sit down to a plate of honey, or butter, or sugar, and he loses his relish before he has enjoyed one-tenth of the pleasure he may find in eating as many first-rate peaches, pears, apricots, or nectarines, or even apples or berries as his stomach will bear. And what greater dainty can be served up to man than delicious fruit? For what other luxury will men pay as high a price? Vergaluce pears often command one dollar per dozen. In France they often sell for forty cents a-piece, and fifty cents for a peach have often been paid in Boston—more than treble the cost of ice-cream. Yet there are still better fruits than these.

And what is more, *all* love good fruit. See how fond of fruit all children are? See what an enormous quantity of pears, peaches, strawberries, apples, &c., are consumed in our cities.

Now, since that is best which *tastes* best, and since fruit relishes better than anything eaten, fruit must be the most wholesome of food. And so it is. It prevents or removes constipation and often acts like a charm both upon

body and mind. Different constitutions require different kinds, yet ripe fruit, of the right kind, is better even in sickness than medicine; and, eaten with good bread, nothing is more palatable or wholesome as food. It never cloy the appetite, or clogs the stomach, but keeps the bowels open, head clear, passions cool, and the entire man healthy and happy. Just try the experiment. Sit down to a breakfast of first-rate fruit and Graham bread, and say if it is not the best breakfast you ever ate. And what is more delicious than peaches cut up and sweetened at supper? Or than strawberries and cream with bread? Choice pears are as delicious. Nor are berries with bread and milk such very inferior eating. And when none of these can be obtained, good apples, baked or raw, relish right well.

If it be objected that these choice fruits last but a short time, the answer is, that nature provides us with a perpetual round of them from May to November. Apples keep the whole year, and pears of the very best variety can be kept till the appearance of strawberries the next year. A friend of the author had plums—Coe's golden drop—the first of June, which he had kept perfectly sound all winter, and the frost damson keeps till November; while the amber primordium ripens early in July. Many other kinds ripen through winter and spring. Pears and plums can be kept the year round as easily as apples; and summer fruit, by bottling, can be kept perfectly fresh a year. And by the use of hot-houses, fruit can be picked from the trees in winter or spring.

We can also preserve them, or make them into jellies. Yet this process, besides deteriorating their flavour, impairs their digestibility. Preserves are too rich. Their nutrition is too much concentrated. Yet the juice can be extracted and then dried, so as to preserve its original flavour and dietetic utility. Or most kinds of fruit can be dried, and thus kept, though this process dries out much of its goodness as well as sweetness. Yet dried fruit stewed is far better than none.

Stewed apples sweetened, make an excellent relish with bread. The addition of butter does not increase its palatableness, but rather lessens it. Yet apple-sauce should be made every few days, and not made so rich as to keep all winter. Nothing equals simple bread and choice fruit, if people only knew it, both for health and luxury.

In general, good fruit loses much of its flavour and virtue by being cooked. Poor fruit may be improved by being cooked and sweetened; but first-rate fruit and bread ought to be good enough for a prince; and is, in fact, the best pie, and cake, and dessert in the world.

*Green* fruit, however, is injurious. Nor do we realize how many, especially children, lose their lives directly or indirectly thereby. Adults are most culpable for eating fruit before it is ripe. Nor would children ever eat it, if supplied freely with what is good. Parents should see to it, that their children have good ripe fruit as much as bread.

Most solid fruits, especially peaches, are picked green, so that they may keep the longer. Those who would have good fruit must RAISE it—must pick it from their own trees.

Foreign fruits are good, but home fruits are better. Nature generally adapts the products of every clime to its dietetic requisitions; and has made those fruits to flourish best in every clime which its inhabitants require. Yet imported fruits augment variety, and those which will keep well, may be eaten freely with profit. Of these, oranges, lemons, pine-apples, bananas, and nuts, are examples.

Sweets are as healthy as palatable. They contain starch and carbon in great abundance, and these are two of the principal ingredients required in food. Yet they should be commingled with our food just as Nature has mixed them herself with all kinds of edibles. Sugar is extracted from the grain, the beet, and the maple, and even from corn-stalks; and can be made

almost out of anything that will serve for food. When eaten, it should be duly diluted, and it will rarely cloy, but greatly enhance the palatableness of almost everything eaten, especially of "flour victuals." Sweet apples and fruit are much more nutritious than sour, and greatly facilitate the fattening of stock.

Molasses is good; because besides yielding a great amount of nourishment, it stimulates the intestinal canal, and thus helps to evacuate obstructions and waste matter. Eaten with Indian meal made into puddings or cakes, it becomes highly aperient, and thus carries off causes of disease. Let children be served with it at least once or twice a week; nor should adults refuse it.

Those slaves, and even cattle, that eat of the cane while extracting its sugar, are said to thrive remarkably well; and I am fully persuaded that if the cane as well as its extract were imported and extensively used as an article of diet, its usefulness would be very great.

Honey is also most delicious, and, duly mixed with other things, may be eaten with profit, especially in winter. Sweets generally should be eaten more sparingly in warm weather than in cold.

Milk, butter, and cheese are highly nutritious, though not altogether unobjectionable. Milk contains caseine, and caseine contains fibrine and albumen, in a highly soluble state, so that they can be easily carried to every portion of the system. Milk also contains nitrogen, an abundance of which is essential to growth. A milk diet is therefore peculiarly adapted to promote the growth of children and youth. And the fact that nature has ordained it as the natural food of infants, is no mean guarantee of its utility. Its promotion of the growth of young animals generally, still further recommends it.

Butter made from the oily properties of milk, contains a great amount of carbon. Its nutrition, like that of sugar and honey, is highly concentrated. Butter also soon becomes rancid, when exposed to heat, and in this form it is peculiarly obnoxious. It often causes cutaneous eruptions, biles, and the like; and eaten in warm weather, and in those quantities in which it is generally consumed in America, loads the system with corruption, renders many miserable for life, and hurries thousands into untimely graves.

Cream is better than butter, and certainly more palatable, and may be eaten with bread, or bread and fruit, with comparative impunity, especially in cold weather. Other stomachs may manage butter, but mine cannot, except in small quantities; and it proves detrimental to dyspeptics generally. Spread thin upon bread, it may do. Sweetened cream is far more palatable and less objectionable.

Milk also promotes sleep, and hence is the better for supper, especially for the supper of children, and probably for the wakeful. Sour milk and butter-milk sweetened, are probably both nutritious and healthy. The author attributes his recovery from a consumptive attack to the use of butter-milk, and relishes sour milk sweetened much. The Germans strain all their sweet milk into sour, and thus curdle it; and some cannot eat milk unless it is previously curdled. Curdled by adding sweet cider, it becomes delicious and wholesome.

Melted butter, as eaten on warm bread, or on hot short-cake is not good. Buckwheat cakes of themselves are harmless, yet swimming in melted butter and molasses, they can be borne only by few. Add milk or cream, with sugar, or molasses, or honey, and they are even more delightful to the palate than with butter, and doubtless as wholesome as they are delicious. When the system is in want of carbon (heat) butter may be eaten with profit, yet cream is better.

Cheese does not suit some stomachs, the author's included, yet may not be peculiarly unwholesome. It offends troubles children, and should be administered to them sparingly, if at all. Yet pot-cheese, made of sour milk, is nutritious, and probably harmless.

Peas, beans, potatoes, onions, beets, carrots, turnips, squashes, and vegetables generally, may be eaten freely, with profit. Ripe beans and peas

contain a great amount of nutrition, make good blood, and should not be allowed to fall into disuse. Made into soups they relish well. They constituted a standing article of the diet of our ancestors.

Potatoes, a recent but popular article of diet, deserve all the practical estimation in which they are held. Though not very nutritious, yet on this very account they "fill up," and thus prevent our taking excessive nutrition in other forms. Baked, they are very fine, and they are palatable however prepared. Yet they should be eaten with bread, or their bulk will be too great for their nutrition. Potato-starch pudding is one of the most nutritious and easily digested articles of diet to be found.

Onions are both palatable and wholesome. The French consume them freely. They are especially good in colds. The ourang-outang, when suffering from colds, eats them raw in great quantities, and would eat nothing else. They are aperient, and their syrup, sweetened, relieves oppressed lungs, and restores suppressed perspiration. For incipient infantile colds, it is admirable.

Beets, carrots, and turnips, are good in their places. Every family should feed upon them occasionally. Parsnips are good, though rather difficult of digestion at times.

Cabbages are often digested with some difficulty, and yield but little nourishment.

Greens in the spring are aperient and healthy, yet need not be soaked in vinegar to be rendered palatable.

Squashes and pumpkins are good, either stewed or eaten as sauce, or with bread, or made into plain pies. Yet they should not be spiced to death, or till their taste is nearly obliterated, and their utility rendered doubtful. To some constitutions, squash is equally serviceable.

Cucumbers and radishes are injurious. They ought never to come on the table.

Nuts, as generally eaten, are unwholesome for two reasons. They are often eaten between meals, and when the stomach is already overloaded. Secondly, they contain a great amount of carbon, and thus increase that superabundance of it which is one great cause of disease. Yet eaten with food, or as a part of food, they would prove beneficial, as they are eminently nutritious and palatable. The inhabitants of the South of France, Savoy, and a part of Italy, live to a great extent on chestnuts during fall and the early part of winter, making them into bread and puddings in place of flour. Nuts abound in vegetable oil, and of course of carbon, and also of gluten and fibrine—three of the most important elements required for sustaining life. But we shall discuss their value more fully when we come to speak of animal heat.

#### HOW TO EAT; OR, MASTICATION.

Our food once selected in accordance with the foregoing principles, the next question is, How shall it be eaten? With our *teeth*, of course. Nature forbids our throwing it into the stomach as with a shovel. By rendering the passage to it small, she literally compels us to swallow our food in small parcels. She has also furnished us with a mouth, set all round with two rows of teeth, which fit exactly upon each other, and are every way adapted to crushing our food to atoms. Nor can we, in general, swallow our food without its being more or less chewed.

Still further to induce us to chew well our food, nature has rendered the action pleasurable. She has given food a most delicious flavour. Yet men generally do not know how to enjoy a tithe of the gustatory pleasure which nature has appended to eating. Not one in a thousand know how to eat! All know how to eat *enough*, but few know how to eat *little* enough. All know how to eat *fast* enough, but very few know how to eat *slowly* enough. And strange as it may seem, few know even how to *chew*, simple, easy, and natural as the thing is! Nine hundred and ninety-nine in every thousand eat mostly

with their *stomachs* instead of with their *teeth* ! This poor slave has often to perform two or three times its proper task, simply to digest the enormous quantities of heterogeneous compounds forced upon it, besides being compelled to do what the teeth should previously have done.\* Is eating, indeed, so very greivous a task that it should thus be hurried over ? Most men shovel in their food in great masses, mouthful following mouthful, thick and fast, eating as much in five minutes as would take them nearly an hour to eat well. Americans generally treat eating, as they treat impertinent customers—get done with it as soon as they can, without ceremony. Yet few things are of more importance. Besides, how can we expect to enjoy the pleasure nature has associated with eating, unless we take sufficient time in eating ? Instead of despatching our meals to get to business, we should despatch our business, and eat at perfect leisure. We should never sit down to the table in a hurry ; and we should eat as leisurely as if time and tide were waiting for us. The ox and horse eat as quietly as though eating was their all. Only swine guttle down their food. Will you imitate the swine ? Take time to eat *well*, and you will probably live nearly twice as long, and this protraction of life will enable you to do the more business. Eating fast is one of the worst ways of hastening business you can adopt. Let business stand while you eat, and eat with the utmost deliberation. Let nothing hurry you either to or from the table. Make eating a **PARAMOUNT** business. No one should deposit an ordinary meal in less than half an hour. How foolish to cram it down with swinish verocity in five minutes ! Yet some men make quick eating their **BOAST**.

The loss of gustatory enjoyment consequent on fast eating, is one of its smallest and lightest evils. It breaks down the stomach, and thus disorders and diseases the entire system. Few other causes are as prolific of dyspepsia (indigestion) and its dire train of evils as this. We have not everrated the importance of a due selection of food, yet its proper mastication is as important. How can the gastric juice penetrate the food unless it is mashed fine ? Food deposited in lumps defies its solvent power for a long time, meanwhile irritating and weakening its power ; whereas, if it were well crushed before it entered the stomach, this juice could penetrate or get hold of it, and digest it before fermentation occurred.

Nor is this all. Food must be thoroughly mixed with **SALIVA** as a means of being thoroughly crushed. Hence nature has stationed five glands about the mouth, two at the back part of the jaws, two at the sides of the lower jaw, and one under the tongue, which secrete this saliva, and discharge it into the mouth when food is presented. Chewing mingles this saliva with what we eat, and enables us to grind our food perfectly fine.

It appears that saliva, besides facilitating mastication and deglutition†—for without it food would be too dry to be swallowed easily—in part dissolves the food, and prepares it for the action of the gastric juice before it enters the stomach. As cotton must go through several **PREPARTORY** processes before it can be woven ; so food must be both ground fine by mastication and saturated with saliva, till the starch of food, one of its most nutritive elements, is liquefied and prepared for the digestive process. How deeply important, then, that we should thoroughly chew our food, and that we should keep these salivary glands in a healthy, sound, and vigorous state ! The stomach has enough to do after thorough mastication and salivation have prepared the food for digestion. Especially is this true of weak stomachs. Nor can the digestive process be complete, or food made good blood, without this work of preparation. The reader will please to note this principle, as we shall found several important directions to dyspeptics on it, when we come to treat of the cure of disordered digestion.

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\* This is not so true of English people as of Americans.

† Chewing and Swallowing.

The food is next swallowed, or passed down the œsophagus, a long duct connected with the back part of the mouth, and furnished with longitudinal and transverse fibres, which, contracting from above downwards, impels its contents down into the stomach.

Important as are the right selection and due mastication and salivation of food, its *quantity* is probably equally so. Unwholesome *kinds* will often engender less disease and suffering than excess in the *amount*. Health and disease depend greatly on *how much* we eat. Many, especially dyspeptics, counter-balance the good effects of a plain diet by over-eating. It is no exaggeration to say, that most people make gluttons of themselves. This is doubly true of Americans. An English Quaker, on his return from a transatlantic tour, when asked what he thought of the Yankees, answered, that "Their men are gluttons, and their women slaves." Notice the disappearance of dishful after dishful, and even tableful after tableful, at our public and private meals. Watch your own plate, and notice how many times, though it is loaded to begin with, you "back up your cart" for another load. All this besides the desserts. Though we may not eat as much as the Indians, who are reputed by several travellers to stuff themselves with from six to fifteen pounds of meat per day, when they can get it, yet, on the average, we eat at least from two to three times more than nature requires. Nearly every reader will bear the self-condemning witness, that he often eats so enormously as to feel uncomfortable, stupid, and sometimes almost sick; and most who will omit an occasional meal will feel twice as well for a day or two afterwards.

But, to bring our remarks to a point, notice three classes of facts, everywhere observable. Dyspeptics generally eat enormously—nearly twice as much as ordinary persons, while those who enjoy PERFECT health, and have never been sick, eat less than half as much as others, and not a quarter as much as dyspeptics. The bully of the Erie Canal, in 1837, and of course the strongest and toughest man of all those powerful navigators of that extended water, ate less than half as much as the average of his passengers. A comb-factory man in Newbury, Mass., who has always enjoyed the very best of health, is surprisingly abstemious in the quantity of his food. Aged persons usually eat very little, and hence their length of life. Men of great talents and virtue usually practice rigid abstinence. Wesley furnished a noted example. See what he did and endured—how little he ate and how often he fasted.

Fleshy persons usually eat moderately, while spare persons, the world over, are generally great eaters. The reason is this: what the former *do* eat, they completely digest, extracting from it all its sustaining virtue, so that they need but little; whereas gluttons disorder their stomachs, so that the enormous quantities they consume are not converted into nourishment. A little food well assimilated, yields far more nutrition and life than quantities crudely digested. In fact, gluttony doubly starves its subjects; first feebling and then disordering digestion, so that it cannot extract the nourishment from food, and secondly, by causing a gnawing, hankering, craving state of the stomach, akin to starvation.

Old Parr, who became a father after he was one hundred and twenty, and retained his health and all his faculties unimpaired till he visited the royal court, aged one hundred and fifty-two, died in about a year, from slightly letting down his extreme abstemiousness.

Louis Carnaro, who by abandoning those excesses, which broke his constitution, and threatened him with death at thirty-six, baffled disease in its most aggravated form, by confining himself to less than twelve ounces of solid and exclusively vegetable food per day, was over-persuaded to increase his quantity only two ounces, the effects of which he describes as follows: This increase, in eight days, had such an effect upon me, that from being remarkably cheerful and brisk, I began to be peevish and melancholy, and was constantly so strangely disposed, that I neither knew what to say to others, nor



what to do with myself. On the twelfth day I was attacked with a violent pain in my side, which held me twenty-two hours, and was followed by a violent fever, which continued thirty-five days, without giving me a moment's respite." This was his only sickness during sixty-three years of abstemiousness.

Richard Lloyd, "a strong, straight, upright man, wanting no teeth, having no gray hairs, fleshy and full-cheeked, and the calves of his legs not wasted or shrunk, his hearing, sight, and speech as good as ever," at one hundred and thirty years of age, being persuaded a meat and malt liquor diet for one consisting exclusively of bread, butter, cheese, whey, and buttermilk and water, "soon fell off, and died."

Dr. Cheyne reduced his weight from four hundred and forty-eight to one hundred and forty pounds by abstinence, grew corpulent and sick on a more generous diet, and was restored by abstemiousness. His practical and theoretical model was, "The lightest and least of meat and drink a man can be tolerably easy under, is the shortest and most infallible means to preserve life, health, and serenity."

Dr. James Johnson, one of the ablest of modern physiologists, who cured himself of an aggravated dyspeptic malady by rigid abstemiousness, and then wore out two armies, in two wars, and thought he could wear out another, says: "The quantity should never exceed half a pound in weight at dinner, even when that can be borne without a single unpleasant sensation succeeding. This quantity is quite enough, and generally too much. The invalid will acquire a degree of strength and firmness, not fulness, of muscle, on this quantity, which will, in time, surprise his friends as well as himself." Some will often derive more nourishment and strength from four ounces of gruel every six hours, than from half a pound of animal food and a pint of wine.

The author's experience fully confirms these testimonies. When so crowded with professional calls that he was obliged to postpone meals or dismiss customers, he occasionally chose to postpone his meals, and soon found that it doubled and trebled his capacity to endure mental labour; and shortly afterwards adopted the practice of fasting whenever he was pressed with business, and preparatory to lecturing. To eat supper before lecturing,\* always greatly mars and enfeebles both matter and manner, so that he always prepares himself for the desk by fasting. To write well on a full stomach is an impossibility. No one who has not frequently practiced abstemiousness in quantity as well as quality, can appreciate the far greater flow of thoughts, words, and facts, and the enhanced clearness of mind and intensity of feeling, produced by fasting. It may, indeed, be carried so far as to prostrate, yet even a state of temporary hunger quickens mental action, while a full meal is to the mind as lead tied to the soaring eagle. I find that the less I eat the more I think. I have, in times past, lost months and years of my precious life by overloading my stomach, and I thus proclaim my errors that others may take warning. But I am determined to commit this sin no more. Shall I fetter the immortal MIND, by indulging appetite? Shall propensity be allowed to blight the god-like powers of the human soul? Gluttony is the great sand-bank of mind. There is no telling how much a little abstinence would enhance the progress of our students, the mental and moral powers and consequent usefulness of writers, and the intellectual acumen of all who require mental strength and activity. Nor do the *feelings* escape the palsying grasp of over-eating. They suffer most, in fact. Over-eating blunts and benumbs all our keener, finer, holier emotions, and curtails enjoyment more universally and effectually than almost any other cause, besides all the untold anguish of body and mind it induces. The extent and magnitude of the evils

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\* They generally take supper about half-past six in the evening in some parts of America.—J. B.

of intemperance in drinking, though they far exceed even the glowing descriptions of all its opponents combined, fall short of the evils of excessive eating. The former are limited comparatively to few; the latter are almost universal, and practised from the cradle to the grave. Mothers begin by choking their infants with the breast every time they cry, though this very crossness is generally occasioned by excessive nursing; and then they aggravate the evil by stuffing, stuffing, stuffing their children with pies, cakes, candies, nuts, apples, and the like, from the time they rise till they retire, the whole year round, so that most children *grow up* gormands. And this soul-and-body destroying habit "grows with our growth, and strengthens with our strength."

"I tell you honestly," says Dr. Abernethy, "what I think is the cause of the complicated maladies of the human race. It is their gormandizing, and stimulating, and stuffing their digestive organs to excess, thereby producing nervous disorders and irritation." Another eminent medical writer says: "It is the opinion of the majority of the most distinguished physicians, that intemperance in diet destroys the bulk of mankind." "Most of all the chronic diseases, the infirmities of old age, and the short period of the lives of Englishmen, are owing to repletion."

"And I do firmly believe," says President Hitchcock, "that scarcely any sedentary or literary man can exceed from twelve to sixteen ounces of solid food, and from fourteen to twenty-four of liquid per day, and keep within the bounds of temperance." Soldiers are more vigorous and healthy on scanty than on full rations. Pugilists are fitted for the bloody ring, and horses for the race, by great abstemiousness combined with extreme exertion of muscle, which proves that abstinence facilitates labour. In short, every dietetic fact and principle goes to establish these two conclusions, that almost all eat double the quantity of food necessary for the attainment of the highest state of mental and physical vigour and endurance, and that over-eating is the great cause of modern disease and depravity. One and all, TRY ABSTEMIOUSNESS. Let those who are well try it, that they may retain and enhance their health; and let invalids try it, that they may banish feebleness and maladies, and again enjoy the blessings of health. The literary should try it, that they may augment mental efficiency; and labourers should try it, that they may increase their ease and working capability. Above all, the sedentary should try it, that they may ward off the impending evils of confinement within doors. I would not have anyone eat one mouthful too little; but I do wish to see men content themselves with the quantity most promotive of strength, talents, and happiness. How much is best we proceed to show:

#### A TEST OF THE PROPER QUANTITY OF FOOD.

Appetite is a perfectly certain guide to quantity as well as kind, when it is unperverted. But alas! so perverted is the appetite of most, that it is like a drunken pilot in a storm. It is worse than no guide; for it leads *astray*. To lose this infallible guide in so important a matter, is most unfortunate. An ill-regulated appetite, by constantly tempting people to over-eat, engenders a great portion of those very maladies and sufferings which mankind experience, and abridges the period of man's existence one half!

This unnatural condition of appetite requires a little explanation. Let it be remembered, then, that a most intimate relation exists between the stomach and Alimentiveness. Whatever, therefore, inflames the stomach, excites Alimentiveness, and thus creates cravings akin to hunger. *Excess of food* inflames the stomach, and thus provokes those hankerings after food which most mistake for real hunger. Yet such cravings are caused, not by hunger, but by *SURFETING*. This shows why dyspeptics have frequently such enormous appetites. They have inflamed their stomachs, and thus rendered their appetite morbid, and its cravings insatiable. And the more such eat,

the more they crave. Eating, so far from satisfying this morbid craving, only enhances it. True, they feel weak, gone, faint, and ravenous—feel as if they shall drop down, unless they can get something to eat soon—yet the more they eat the more they crave, because the more they inflame the stomach, and, of course, its cerebral organ, Alimentiveness. Cannot such see that they eat twice as much as men in general, and four times more than many around them who enjoy uninterrupted health? How can they require so much, when others get along so much better with so little? What could more conclusively prove that both their craving and diseases proceed from their gluttony? And what establishes this point beyond a doubt is, that protracted abstemiousness will diminish these stomachic gnawings. Make trial, ye thus afflicted, and you will be surprised at their decrease. And, in general, those who feel faint in the morning till they eat, ravenous before dinner, and hungry before supper, should attribute these cravings to an OVER-LOADING of the stomach instead of an empty one. And they who suffer much from omitting a meal may depend upon it that they over-eat. Fasting gives little inconvenience to healthy stomachs; nor is there a more sure sign of gluttony than these hankerings, and this faintness when a meal is omitted. Contradictory though it may seem, yet of all such cravings, persevering abstemiousness is a perfect cure, because it allays that irritation of the stomach which causes them, and which full feeding, by re-inflaming appetite, enhances. Only try its virtues, ye thus afflicted. FAST instead of feasting; and keep fasting till you can, like those in health, omit a meal with little inconvenience or prostration. Especially should you omit supper, and drink copiously of cold water an hour before breakfast.

“Whenever,” says Dr. James Johnson, “our food is followed by inaptitude for mental or corporal exertion, we have transgressed the rules of health, and are laying the foundation for disease. Any discomfort of body, any irritability or despondency of mind, succeeding food and drink, at the distance of an hour, a day, or even two or three days, may be regarded, other evident causes being absent, as a presumptive proof that the quantity has been too much, or the quality injurious. If a few hours after dinner, a man feels a sense of distension in the stomach and bowels, or any of the symptoms of indigestion which have been pointed out; if he feel a languor of body, or a cloudiness of the mind; if he have a restless night; if he have experienced a depression of spirits, or irritability of temper next morning, his previous meals have been too much, or improper in kind, and he must reduce and simplify till he come to that quantity and quality of food and drink for dinner which will produce little or no alteration in his feelings, whether of exhilaration immediately after dinner, or of discomfort some time after this meal. This is the criterion by which the patient may judge for himself.”

The fact is, we may accustom ourselves to eat little or much at pleasure, with this difference, that the former habit leaves the muscles and brain unoppressed and active, while the latter stupifies a man. Agents and tourists concur in the declaration that the Indians will eat from six to fifteen pounds of meat in the twenty-four hours, spending most of their time in eating it when they can get it. “For a few days,” says Captain Duval, “after getting into camp, he will eat from eight to ten pounds, and for the first day or two would even exceed that quantity.” “The Osages,” says Captain Rogers, “often eat from ten to fifteen pounds of fresh meat in the course of the twenty-four hours, particularly on returning from a fatiguing hunt, when I have no doubt they frequently consume from five to six pounds at a meal.” Mayor Armstrong says: “They would consume from six to eight pounds a day”—a quantity under instead of over the true estimate. Mr. Robert Cook says: “I have seen a prairie Indian eat and destroy, upon his arrival in camp, fifteen pounds of beef in twenty-four hours. I am further of opinion that they will eat daily ten pounds throughout the year.” Of the amount of

food eaten by the Esquimaux, John Ross says: "Their consumption of food is enormous, and often incredible. They eat, perhaps, twenty pounds of flesh and oil daily." Sir W. E. Percy weighed out to a half-grown Esquimaux boy, eight pounds of sea-horse flesh, one pound twelve ounces of bread, one pint and a quarter of rich gravy soup, a gallon of water, and six wine-glasses of spirits, "quantity no way extraordinary."

Of the Siberian Yakuti, Captain Cochran says the Russian Admiral Saritcheff gave to a Yakut "a thick porridge of rice boiled down with three pounds of butter, weighing together twenty-eight pounds, and although the glutton had already breakfasted, yet did he sit down to it with great eagerness, and consume the whole without stirring from the spot." Captain Cochran adds that a good calf, weighing two hundred pounds, may serve four or five good Yakuti for a single meal. I have seen three of these gluttons consume a reindeer at a single meal.

Barrow says: "Ten of our Hottentots ate a middling sized ox, all but the two hind legs, in three days, but they had very little sleep during the time, and had fasted the two preceding days. With them the word is eat or sleep." He adds of the Bosjesmans: "The three who accompanied us to their wagons had a sheep given them about five in the evening, which they entirely consumed before noon the next day."

The author's father once knew a glutton who ate two chickens, with the usual accompaniments of bread and sauce, and called for more. The dinner, prepared for eight workmen was next brought on, which he despatched, they not having been called, and when he called for more still, bread and cheese were set on. When the landlord reproved him for cutting the cheese in slices, instead of cutting it towards the centre, he replied, "that it made no difference, since he calculated to take the whole," to avoid which the landlord started forward a drove of cattle he was driving, and thus hurried him from his unfinished meal, though he took in his hand a large slice of bread and another of cheese.

Germans, as a nation, are great eaters, while Spaniards and French live comfortably on very little; while the former are no more healthy than the latter. And the world over, great eaters are generally stupid. Of this, the Indians, Hottentots, and Yukuti are examples. Theu why follow depraved appetite as our guide to quantity? Those who crave and consume great quantities of food do so from gluttony, not necessity. Such, so far from freely indulging their appetite, and thus enhancing their voracity, should reduce it by abstinence. Nor need they fear starvation. The Spaniards do not suffer for want of food, but eat all that uperverted nature requires. And all that any one wishes more than this is unnatural—is the want of a depraved appetite, not of nature. Let us seek and follow *nature's* standard, not our own inordinate cravings, and the result will be increased mental and physical capability and enjoyment.

Those convinced of over-eating will now inquire how appetite can be restrained? Doubtless, most readers, conscious of excess, would give almost anything to know how they can manage to govern their cravings. Every now and then they suffer from excess, and firmly resolve to eat less; and succeed for a single meal, but eat the more afterwards. Indeed, few things are more difficult than to govern a morbid appetite, whether for alcoholic liquors, or unhealthy viands, or excessive quantities of food. He that can do this has the spirit of a martyr in him. To rule a kingdom is play compared with controlling a morbid appetite. Yet even this is not so difficult after we know how. Many try *hard* enough, but do not try *right*. Follow the succeeding direction, and the task will soon become easy.

FIRST. -Take upon your plate, in one or two parcels, all the food, except, perhaps, the dessert, you think best to eat at a meal, even though it may seem to be a "cart-load," and leave off when that is finished, instead of

backing up your cart for another load. By these means alone can you fully realise how much you *do* eat. Or if this is impracticable, notice how much you have previously taken, so as to bear in mind the sum total consumed. But if you take potato after potato, and slice after slice of meat and bread, and the like, relying upon an already inflamed appetite for your guide to quantity, going on till your stomach, stretched by a thousand surfeits, is pained by fulness, be assured you will over-eat. *Weighing* a few meals, till you have learned to estimate correctly by the eye, and never exceeding twenty ounces per day of solid food, will soon aid you in curtailing appetite. When pressed with business or writing, I limit myself to a pound of bread per day, exclusive of fruit, and eat nothing besides.

Especially should the meals of children be measured out to them, with the full understanding that they can have no more till the next meal. They will thus grow up to this much desired limitation. Never make them eat things to prevent them from being wasted.

SECONDLY.—Eat your food in *small mouthfuls*. When we cram in great mouthfuls, and chew only till we can just swallow, and then hurry in as much more as the mouth will hold, we eat far greater “cart loads” in a short time than we suppose. But when we take a small quantity at a time, and chew it till it is fitted for being deposited in the stomach; instead of a *great* pile of food seeming *little*, a *little* will seem a great one, and go a great way both in satisfying appetite, and nourishing the body, strengthening instead of impairing digestion. See some children eat. They take a small bite, and laugh, play, and talk, perhaps even while chewing it, and then take a little more, and thus spin out their eating a long time. Do you so, and you will find it easier to stop when you have eaten a small meal than you do now after eating a large one.

Besides, when you eat fast, and in large mouthfuls, the stomach hardly realises how much food it has taken, until it is almost crushed under its burden. Follow these simple directions—parcel out your meal at the commencement, and then eat it in small mouthfuls at a time, and chew thoroughly and the government of appetite will be easy. To govern a craving appetite while you eat fast, is next to impossible.

A THIRD means of reducing the quantity of food consists in EATING SELDOM. This brings up the question, How *often* should we eat? I should say three times a day for most, twice for others, and four times a day for none.

Many with whom the author has conversed, who have exchanged the three-meals a day system for the two, declare themselves improved both in mind and body thereby. With this my own experience fully accords. A breakfast at eight or nine, and a hearty dinner at three, are far better for me than a third meal.\* Your stomachs, like your muscles, must have REST. And three meals a day do not allow them to rest. Still, I would not recommend a sudden change from three meals to two.

But invalids, it is generally supposed, must eat often. I think the reverse. Their debility or disease prevents their consuming much of the energy derived from food, so that they require less, and their exhausted stomachs pre-eminently require rest. “There is nothing,” says Dr. Cheyne, “more supremely ridiculous than to see tender, hysterical, and vapourish people, perpetually complaining, yet perpetually cramming; crying out they are ready to sink in to the ground and faint away, yet gobbling down the richest and strongest food and the highest cordials.” In fact, I know of no more effectual remedy, both for chronic invalids and the sick, than fasting. Why take food when they cannot digest it, especially since its presence only clogs

\* That this is the case in the United States I cannot doubt; and I believe to be the case with millions even in Great Britain.—J. B.

and irritates? As gormandising is one great breeder of disease, so abstinence is one great remedy. Whether infinitesimal doses of homœopathy are potent or harmless, one thing is certain, that the *dietetic* prescriptions of this medical sect are beneficial. Nor is the temperance regimen, associated with the "water cure," scarcely as efficacious as a restorative agent, than the water application itself. Abstemiousness and water, rightly applied, will restore almost all to health, while frequent eating puts back almost all convalescents, and often induces a relapse, and hurries its victim to the grave. Many convalescents, whom over-eating does not kill outright, are loaded anew with disease, and injured by it for life. Let our readers heed these warnings.

Eating between meals, luncheons, etc., next come up for reprehension. If two meals are sufficient for human sustenance, eating between three must certainly be injurious. The stomach, on receiving its allowance, empties into itself a copious discharge of that gastric juice which dissolves the food; and it does not secrete another supply till all that meal is disposed of and another demanded. Hence when we eat between meal-times, portions of food must often lie in the stomach undigested, to irritate and disease the stomach. Besides, to interfere with the process of digestion by introducing a fresh mass into the mass already partly dissolved, distracts and arrests the healthy action of the stomach, and causes the food first received to lie until insipid fermentation takes place. Not once a month do I eat between meals, unless just before or after, so as, in fact, to be a part of my meals, and always when I do, I hear from it in the form of dyspeptic pains. Nuts, cakes, candies, apples, oranges, and the like, should therefore be eaten with meals, not between them; and those who violate this law, must suffer the direful consequences of disordered digestion.

Children require food oftener than adults, perhaps; but if they have apples, nuts, and the like, see that they eat them just before or right after, or along with their meals; and if adults would enjoy dainties, let them keep them until meal time. Nor should luncheons ever be eaten. Do not disturb the digestive process. Many of us, by thus eating unseasonably, have undoubtedly inflicted aggravated pains and lingering maladies upon ourselves, which will burden us as long as we live, and hasten our death.

The best time for eating also deserves attention. We should never take food just after rising, but wait till the stomach is prepared for it by exercise. Some urge inability to exercise till after breakfast, because of consequent faintness. This is the very reason why they should exercise. Its cause is that stomache inflammation already explained, which can be cured in part by exercise before breakfast, little and light and first, and gradually increasing its duration and amount as it can be borne. Their difficulty is *dyspepsia*, the cure of which remains to be discussed.

Nor should food be eaten within at least three hours before retiring. True, sleep sometimes promotes digestion, yet digestion interferes with sleep, "nature's great restorer." A full stomach is very apt to engender bad dreams and induce restlessness and stirring in sleep, as well as night-mare. Especially should nuts, raisins, candies, fruits, etc., be eschewed at night. Eat little, if any, supper, and that three or more hours before retiring, and you will sleep the more sweetly, and feel the better the next day, because of the far greater good your sleep will do you.

But where three meals are eaten, seven, twelve, and five are perhaps the best hours; where only two are taken, from eight to nine, and from three to four are probably preferable. Business men, who dine at three, should forego forenoon luncheons and suppers, because the former unfit the stomach for dinner, and the latter, especially on the top of a hearty dinner, are doubly injurious.

The digestive process is one of the most remarkable as well as important operations of human economy. How effectually impaired digestion, in the

form of dyspepsia, prostrates both physical and mental energy ! A vigorous stomach is indispensable to energy in every other portion of the system. Let us then examine this organ.

It consists of a sack capable of holding from a quart to several gallons, according as it has been more or less distended by excess or deficiency of food and drink. Its upper side is much shorter than its under, thus appearing like a bag held horizontally, and ruffled on its upper edge. It has two openings, the one where the food enters, located on its left superior side, and called the cardiac orifice, from its proximity to the heart, and the other, situated at the right superior side, named the pyloric orifice, through which the food, after having undergone the chymifying process, makes its egress into the duodenum, or second stomach. The latter opening is constructed with a valve, or door, so arranged as to close upon and send back whatever presents itself for egress before it is completely dissolved ; and it departs from this rule in extreme cases only, and where things cannot be digested without remaining so long in the stomach as seriously to injure it. Hence, the objection of food, either way, undigested, as a sure index of a deranged stomach, because a vigorous one would solve whatever is soluble.

It is composed of three membranes—the outer, called the peritonæum or glossy coat, which lines and lubricates all the internal organs, and allows them to slide upon each other without friction ; the middle, composed of muscles laid transversely, and crossing each other in all directions, which contract upon its contents so as to give them the required motion ; and the inner, or mucuous membrane, which is extremely delicate, and of a pale cream colour when healthy. And this structure pervades the whole intestinal canal. Nerves and blood-vessels permeate all its parts ; the blood-vessels imparting vitality, and the nerves connecting it with the whole nervous system, by which means the various states of the stomach control both the nervous system and mind.

When a healthy stomach receives its food, the mucuous membrane, or some glandular structure interwoven with it, empties it into a clear, tasteless liquid, resembling saliva in appearance, called the GASTRIC JUICE, previously secreted so as to be in readiness. This fluid is a most power solvent, capable of reducing to a milky, homogeneous mass, called chyme, all those heterogeneous substances taken as food. It, as it were, sets free, or extracts, from food the carbon, fibrine, casseine, nitrogen, hydrogen, and other substances, which enter into the composition of food, and are required to support life. It will even dissolve food out of the stomach, though not as quickly as in. Its solvent power, when the stomach is healthy, is most astonishing. Not to dwell on the wonderful gastric powers of some animals, *man's* solvent power is far greater, by nature than any suppose. Some have swallowed knives, and digested their bone or horn handles. Is it not surprising that the stomach should bear up often for a century almost, under such continued abuse as most men daily heap upon it ?

But such abuse ultimately weakens its solvent powers. This allows food to lay so long in the stomach, that its heat induces souring or fermentation, which aids its dissolution, and helps to relieve the stomach of its load. But mark : this fermentation is nothing more or less than incipient decomposition, or, to call it by its true name, the commencement of the *rotting* process. To ferment is to *putrify*. Nor is it possible for food to ferment in the stomach with engendering corruption. Especially is this true of the fermentation of meat. All know how vast the amount of offensive matter eliminated by its decay out of the stomach. Fermentation engenders the same in it. Is it then any wonder that dyspepsia, which consists simply in the rotting of food, especially meat, in the human stomach, should cause its victims to feel so wretchedly ? Is not here a powerful argument against meat eating, especially when the stomach is not perfectly good ? Think of it ; meat actually putre-

lying in the centre of the system, to be sent all through it. It is frightful to contemplate! And yet this very process is perpetually going on, in a greater or less degree, within the stomachs of all afflicted by dyspepsia, and this class embraces the mass of Americans, as we shall show when we come to treat of this disease. This chemical fact, that the fermenting process is incipient rotting, together with the fact that the food of the great mass of our nation does thus ferment, develops the prolific cause of most of those chronic, malignant, and all other diseases which bring suffering and premature death on the mass of mankind. Men cannot, therefore, guard too carefully against all injury of this important organ. Its healthy and vigorous condition is indispensable to life and happiness. Its abuse is suffering and death. As starvation, by withholding nutrition, soon destroys life, so imperfect digestion proportionally impairs it. Dyspepsia is partial starvation on the one hand, by withholding the materials of life, and death on the other, by endangering corruption. Hence, whatever dyspeptics do besides, they should first restore the flagging energies of their stomachs. The scholar who is impairing digestion by study is, instead of disciplining his mind, *undisciplining* it in the most effectual manner possible, because stomach diseases effectually prostrate the brain. Such should stop studying till they have effected a cure. And all, whoever they are, whose stomachs are strong should make it their paramount business to keep them so. And those whose stomachs are weak and disordered should endeavour to strengthen and heal them, and should give up or abstain from whatever impairs them. But more on this hereafter.

The gastric juice acts mainly upon the *OUTSIDE* of the food eaten, thus evolving nourishment *GRADUALLY*—a provision of great practical utility. Otherwise we should be obliged to eat perpetually, which would be inconvenient, if not impossible.

The motion of the stomach greatly facilitates digestion. That muscular coating of the stomach, already described, by contracting from all points upon the food, as it were, chews it till it is dissolved. As the muscles of the gizzard of fowls contract upon their food so powerfully as to grind it by friction against the gravel stones mixed up with it,\* so the muscles of the human stomach keep perpetually squeezing and whirling the food over and over, always one way. This motion all may have observed within themselves. In cases of heart-burn, which is caused by the fermenting process, this rolling of the food is particularly observable.

This motion is involuntary, else we should be obliged to attend to it continually, which would be exceedingly inconvenient. Breathing greatly facilitates it. Every inspiration hauls down the stomach, to make room for the ingress of air, and every expiration redoubles this motion by allowing it to return to its place. And as breathing is perpetual, so is this stomachic motion. This physiological principle condemns all lashing down of the stomach, and the use of all girding round it and the lungs, as it prevents this motion. Unless this motion had been very important, nature would never have devised so effectual a means of securing it; and those who arrest it by tight lacing do so at their peril.

Nature still further facilitates this motion by those *ABDOMINAL MUSCLES* which pass up and down across the stomach and bowels, so that we cannot well move the body backwards, forwards, sideways, or any way, without using these muscles, and thus kneading the stomach.

This brings up for discussion exercise after meals, and sleeping at noon. Such exercise is generally condemned, and a sleep recommended instead; because two dogs having been fed alike, the one put upon the chase, the other allowed to rest, on being killed two hours and a half after feeding, digestion

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\* Those who bolt their food, like fowls, without chewing, should, like them, eat gravel stones to do the crushing which teeth were created to do.



was scarcely commenced in the former, while in the other it was nearly completed. Violent exercise is undoubtedly injurious, because it robs the stomach of energy, to supply the extra exactions of the muscles; yet this does not condemn moderate exercise. Nor are we told whether the still dog laid down all the time, or ran around leisurely here and there, but only that he was not on the chase; so that these cases fail of proving that we should "after dinner sit an hour." Moderate exercise promotes, instead of retarding, digestion, though fatiguing labour is of course injurious.

"But," it is objected, "nature inclines to rest after meals, and what she, unperturbed, inclines to, is beneficial." But I doubt whether apathy after meals is natural. True, when we have overtaken the stomach, this organ withdraws energy from the muscles, brain, and wherever else it can obtain it, to enable it to discharge its burden, just as overtaken muscles rob both stomach and brain, and as an overtaken brain robs all the rest of the system. Lethargy of mind, or indolence of body, is a certain sign of having over-eaten. The stomachic nerve robs the brain, or muscles, when thus overloaded. One function is never made to interfere with or obstruct another, else nature would be at war with herself. So far from its being a law of things that the stomach should retard the action of brain or muscle, it was created to facilitate both; so that *right* eating will actually exhilarate instead of prostrating all the other functions. I never take sleeps at noon. Children never do, but are generally more lively and playful after meals than before, but never more stupid; and he who cannot take hold of labour with zest and strength, or study with success, after having eaten, has eaten too much. Eat exactly right—enough but not too much of the right kind, and masticate well—and you can labour with augmented ease, and employ your mind with increased clearness and power after eating, and feel like *doing* instead of *loitering*. Food, like sleep, naturally refreshes and invigorates; and unless it does so, it is excessive in quantity or injurious in kind. This physiological law furnishes a sure criterion of the quantity of food required for the most perfect sustenance of body and mind. Yet when we have over-eaten sleep and rest after meals are probably beneficial.

THE DUODENUM, LIVER, PANCREAS, INTESTINES, AND MESENTERY GLANDS, AND THEIR FUNCTIONS.

CHYLE.

The manufacture of good chyme by the stomach, so far from *completing* the digestive process, only begins it. The mass of chyme remains to be assorted—the nutritious separated from the innutritious portions; for there is a refuse in food, as there is of ashes in combustion. By what means, then, is this separation effected?

After the chyme has been admitted through the pyloric orifice into the duodenum, or second stomach—a long narrow sack, composed, like the stomach proper, of the peritoneal, muscular, and mucous coatings—it there receives two secretions, one called gall, from the liver, and the other, called the pancreatic juice, from the pancreas. The gall is a liquid of greenish colour, and exceeding bitter, secreted from the dark and venous blood while returning back to the heart. This bile is composed mainly of carbon, and this is one of the means by which the system relieves itself of surplus carbon. Hence those whose livers are weak should eat substances less highly carbonised, so that they may have less carbon to secrete. They should also eat less food for the same reason.

Soda is also secreted from the venous blood, and is contained in the bile, and, being required in the vital process, is taken up by the liver, and returned into the circulation, to take part in respiration—a most ingenious contrivance for supplying the system with the soda it requires. The gall thus secreted by the liver, is emptied from all parts of this glandular and porous organ into

little ducts, and these continue to empty themselves into larger and still larger ones, till they finally deposit the gall in a little sack called the gall-bladder, from which it is carried by another duct into the duodenum.

With the glandular structure and general mechanism of the liver most readers are doubtless familiar. If not, they can obtain the required knowledge by observing and dissecting that of animals.

The pancreas, or sweetbread, another long and tapering gland, situated right under the stomach, secretes another fluid somewhat resembling the saliva, which is conveyed by a trough-like duct which traverses it, into which a multitude of smaller ducts empty this fluid into the duodenum. Of the precise nature of this juice little is known, only that it is indispensable to chylication, as chylication is necessary to nutrition.

These two fluids, commingling with the chyme, separate its nutritious from its innutritious portions, somewhat as rennet separates the whey and curd of milk from each other. The nutritious portion is called chyle—a half-liquid greyish substance, closely resembling milk in appearance, laden with fibrine, carbon, nitrogen, oil, and other substances required to support life. In fact, its composition is almost identical with that of the blood, and requires only contact with the air to impart that red colour and oxygen which constitute it blood proper. The importance of these two glandular secretions shows how absolutely indispensable health of function in each is to human life.

The chyle thus separated in the duodenum from the refuse portions of food, both are urged along together into the intestines, and carried along them by the motion of that muscular or middle coating which surrounds the entire alimentary canal, arranged circularly and transversely, so that its action crowds its contents along irresistibly. This canal is some six or eight times the length of a man, and into it open a vast multitude of little mouths or suckers, called the lacteal vessels.

These lacteals, or chyle-drinkers, passing through the three other coatings, open upon the inner surface of the mucous membrane. These lacteals suck up the chyle as it is thus urged along over them, and, passing backward behind the intestines, and then through innumerable little glands called the mesenteries, empty themselves into larger, and these into still larger ducts, till they form one duct which passes up along inside the back-bone to near the neck, and empties its contents into the right subclavian vein, nearly under the right clavicle, or collar-bone, while the residuum, or waste portions of the food, are driven along through the small intestines, and expelled in the form of excrement. Blood vessels also open into the alimentary canal, and when inflamed, as in dysentery, cholera, etc., discharge blood; and hence the sudden weakening, and often death, they occasion.

Behold this most ingenious system of instrumentalities employed to manufacture food into blood, and load the blood with the elements requisite for sustaining life! Yet even now the digestive process is by no means complete, it is only, as it were, begun. After the materials of life have thus been furnished, they must be WORKED UP, else they will be like the unused timber of a house or ship. How are these materials manufactured into life and happiness?

## CHAPTER III.

## CIRCULATION, RESPIRATION, PERSPIRATION, AND SLEEP.

## THE HEART—ITS STRUCTURE AND OFFICE.

THE chyle, richly freighted with the materials of life, is emptied into the blood. The blood is composed of two principal parts—first, serum, which rises to the top of fresh drawn blood when allowed to coagulate undisturbed, and secondly, albumen and globules, which settle to the bottom and coagulate. The blood also contains fibrine. All these resupply that waste of muscle and nerve consequent on their action. The vivifying office of the blood is too well known to require description. Drained of this messenger of life, how soon muscle, nerve, and organ, faint and die?

But this blood must be *circulated* throughout the system in order to impart its vitality. Every organ, nerve, muscle, shred, and tissue of the entire physiology must be supplied with it perpetually, or die. To secure this circulation, nature has devised a circulatory apparatus of extraordinary power and efficiency, consisting of heart, arteries, capillaries, and veins.

The heart is located at the top, and nearly in the middle of the chest, or between the shoulders, its smaller end pointing downwards and towards the left side.

It consists, in common with the stomach of three coatings—a peritoneal, a muscular, and a serous or mucous one. The treble structure belongs to arteries and veins, as well as to the stomach and intestines, and each coating serves a kindred purpose. In the heart, however, this muscular coating is very large, so as to enable it to put forth an extraordinary contractile force.

It is divided into four chambers—two above, called auricles, which draw in the blood; and two called ventricles, which force it out. Nature has also divided it up and down, into right and left lobes. The right auricle pumps in the blood by suction from the veins, and the right ventricle forces it out into the pulmonary or lung arteries and capillary structure. The left auricle withdraws the blood from the lungs and empties it into the left ventricle, which forces it into the arteries and throughout the system.

This ever-acting organ contracts, in healthy adults, about seventy times a minute, or a little more than once a second. It contracts slower or faster according to the general and temporary activity of the subject. It at each pulsation forces into the lungs and arteries somewhere from two to three ounces of blood, according to its size and power; so that as the blood weighs from twenty-five to thirty pounds, more or less, in different subjects, all the blood of the body passes through this organ and throughout the system about twenty-nine times an hour, or once in about two minutes. The heart, therefore, sends throughout the system nearly two hundred ounces every minute, or some seven hundred pints an hour, and above *eight tons* every twenty-four hours. Think what tremendous power is required to withdraw from the veins, pump into the lungs, withdraw from the pulmonary veins, and then send round the system this amount of blood! How little do we realize the amount of power this organ puts forth, or the good which it effects!

To inspect still more closely this mighty pumping machine and its mode of action; the two auricles contract upon the blood they contain at the same time, thereby embracing and balancing each other. Their contraction produces a vacuum, into which blood is again propelled by the contractile action of the

veins, and the pressure of the atmosphere and muscles upon them. The two ventricles also contract together, the right forcing the blood into the lungs, and the left forcing it into the arteries.

We have said that the muscles, or walls of the heart, are thick, large, and strong. The ventricles are much more so than the auricles, because they have more to do. The auricles have only to pump the blood in by suction from the veins and lungs, or rather to empty it out of themselves right into the ventricles, so that it may run in till it again fills them up and causes spontaneous contraction, while the ventricles have to pump it out, the right throughout the lungs, and the left throughout the body. The office of the ventricles being so much more laborious than that of the auricles, they are much the larger, and the left ventricle is by far the largest and strongest of all, because it has to force out the blood with sufficient impetus to drive it not only into all the extremities of the system, but also throughout the inconceivably minute blood-vessels of those extremities.

The heart is a self-acting forcing pump. As the working of the pump creates a vacuum into which the pressure of the atmosphere on the top of the well forces the water, so the contraction of the right auricle of the heart upon the blood it contains, forces out that blood into the right ventricle, and thus creates a vacuum in itself into which the pressure of the atmosphere upon the surface of the body, together with the contractile power of the veins, propel the blood along into these auricles. And just as the water in the pump above the valve is forced up and out, so the right ventricle pumps the blood into the lungs, to be withdrawn again from them by that same principle of suction just described. But for this external pressure of the atmosphere upon the veins, they would burst, strong as they are; and but for this internal pressure, the external would be sufficient to press the walls of the veins so closely together as effectually to close them up. If asked why the contraction of the heart does not propel the blood both ways—BACKWARDS as well as forwards—the answer is, that it is constructed with valves, which close the instant the blood begins to go backwards, and thus stop its return. It must go FORWARDS or stand still.

Our subject brings us next to consider

#### THE LUNGS—THEIR STRUCTURE AND FUNCTIONS.

The fibrine, carbon, oxygen, nitrogen, iron, and other substances which the blood derives from food, constitute hardly half its freight. True, life cannot proceed without them; nor can it with them alone. We must eat; but we must also *breathe*. And the elements furnished to the blood by breathing, are even more indispensable to life than those derived from digestion. We can live longer without food than we can without breathing. Starvation is terrible, and soon fatal, but suffocation is worse, and dispatches its victim a hundred-fold more quickly. Mankind can live but a few minutes—from five to eight—without breath; and those who are the most active die the soonest when deprived of it. The more active the subject, the more rapidly he consumes the energies derived from breath as well as from food, and therefore the more frequent and copious must be his re-supply. The faster we live, the more and oftener we must breathe. As the snake, frog, alligator, and other cold-blooded, sluggish animals, can live a long time without breath, especially while torpid, so the more stupid the human animal, the less breath he requires.

But why dwell upon the importance of respiration? All know how indispensable a constant supply of breath is to life.

But *why* indispensable? What precise *end* does breath subserve? What does it do for the blood and the animal? It thins the blood; but *how*, and *what for*?

We answer, the vital process requires large and constant supplies of OXYGEN. Without it, all the materials of life furnished by digestion would be of no avail. The vital process resembles combustion or burning, of which oxygen is the great agent. As fire goes down with the scarcity of oxygen, and goes out with its disappearance, so the fire of life wanes in proportion as the supply of oxygen is diminished, and death supervenes almost immediately upon its disappearance. It is this imperious demand of the system for oxygen which renders breathing so necessary, and its suspension so soon fatal. Oxygen is obtained from the breath. Air always contains it. Indeed, it is composed of twenty-one parts of oxygen and seventy-eight nitrogen, the other hundredth being carbonic acid gas, and going to support vegetation.

The air is introduced into the system by means of the lungs. The lungs are those two spongy lobes in the upper part of the chest, which surround the heart, and, together with the heart, fill up most of the cavity formed by the ribs. They consist of a very thin and light membrane, permeated by two sets of tubes, one set formed by the branching and re-branching almost to infinity, of the trachea, or wind-pipe, called air-cells; the other set formed by the branching and re-branching of the arteries and veins, which convey the blood from the heart to the lungs and back again. A very thin, though tough membrane, separates these air-cells and blood-cells. The air-cells run side by side with the blood-cells. Thus the air, and of course the oxygen of the air, is brought alongside the blood, only a very thin membrane separating them. This membrane, while it prevents the blood from escaping, except when ruptured, does *not* prevent the passage of *oxygen*. Oxygen is more subtle than air, so that it can pass into the blood through this membrane, while the blood cannot pass *out* through it, nor air pass in through it to the body.

The globules of the blood contain *iron* and this iron attracts and absorbs the oxygen. The oxygen changes the blood from its dark venous, to a bright red colour. It also thins it, and inspirits it with life and action, so that it rushes cheerily through the system.

That oxygen is thus transferred from the air in the lungs into the blood, is rendered certain by the fact, that when air is inspired, it contains 21 per cent of oxygen, while expired air contains only 12 per cent.

What *now* takes place? The production of animal heat. To *heat* the body is one of the first and most essential objects to be provided for. A high temperature is indispensable to the vital process. Human life cannot proceed without it. Man soon dies unless kept heated up to about 98 deg. Fahrenheit. This temperature of the healthy human body is always about the same, in summer and in winter; under the tropical sun of the torrid zone, and among "Greenland's icy mountains;" though in children it is a little higher, about 102 deg. or 103 deg., and in the aged, a little lower than 98 deg. It never varies over five or six degrees above 98 deg., or two or three below it, without arresting life.

Of course the body, thus heated up so much above surrounding bodies, is constantly giving off heat, in harmony with the universal tendency of heat to seek an equilibrium, just as a hot brick or iron between two cold ones naturally gives off its heat to the others, till all the three become equal in temperature. The amount of heat given off by the human subject every hour is therefore very considerable, as experience proves.

The re-supply must be equally great, else a permanent cooling would take place, and death ensue. And this re-supply must be furnished to all parts of the body. This re-supply takes place in the capillary system of the blood-vessels, by the mutual combustion of the oxygen in the blood derived from the breath, with the carbon in the blood derived from food. Nowhere in nature is heat produced except by some form of combustion; nor need we regard animal heat as an exception. And the more so, since chemistry assures us that these two gases, carbon and oxygen, have a strong affinity for each other—the

affinity of oxygen for carbon being even greater than that of oxygen for iron—so that these two gases, when forced into close contact with each other, in the capillary system of the blood-vessels, BURN EACH OTHER UP, the result of course being the generation of heat, so that the system is heated up much as we heat a room. Wood—and all that can be burnt—contains a large proportion of carbon, and hence its formation of charcoal, which is almost all carbon. Add a little fire to start with, and then blow a current of air upon the fire, and the oxygen of the air combining with the carbon of the wood, produces a combustion and evolves heat. The carbon in the blood and the oxygen thus burn each other up. Thus is engendered that immense amount of animal heat within the system which re-supplies that given off by the cooling process just explained, and the body, together with all its parts, internal and external, is kept at that elevated temperature necessary for the maintenance of life.

What next? As the combustion of wood forms smoke and ashes, so that of these two gases deposits a like substance. The materials employed in this internal combustion, chemically analysed, are almost identical in their chemical compounds with charcoal, both being composed mainly of carbonic acid.

The blood, immediately on the combustion of its oxygen, assumes a dark, livid hue, resembling in kind the colour of charcoal, though not so dark, because containing less carbon. Combustion can never take place, either out of the system or in, without creating carbonic acid; and that process of combustion just explained, by which the system is heated, forms some ten or twelve ounces of this acid a day. This substance is hostile to life, and exceedingly poisonous, as seen when inhaled in a tight room in which charcoal is consuming. Its super-abundance is fatal to life. Hence, unless some means are devised for removing it from the system, we should die. The system is cleared of this foe by the iron in the blood combining with the carbonic acid, and then giving it out again, on arriving with it at the lungs. Here this carbonic acid, quitting the iron, combines with the nitrogen, and is brought out of its pent-up enclosure in the human frame into the wide world, again to enter into the formation of vegetables and food.

The iron finds a new supply of oxygen in the lungs. It is this series of changes which gives the heat which is so comfortable in itself, and so indispensable to life. By these means the system is guarded against the otherwise fatal consequences of those sudden and extreme changes of the atmosphere from heat to cold—is prevented from freezing on the one hand, and from burning on the other, and always kept at the required temperature.

This shows what the primary office of respiration or breathing is, the generation of ANIMAL HEAT. It also shows that one of the principal offices of digestion is the subserviency of this same end—the manufacture of heat.

Philosophical reader, you who have to trace out the relation of cause and effect, say whether these combinations, revolutions, and re-combinations are not beautiful in the highest possible degree. And do they not go far towards explaining the INSTRUMENTALITIES by which life takes place?

The amount of heat thus generated is given by Liebig as follows: “According to the experiments of Dezpretz, 1oz. of carbon evolves during its combustion, as much heat as would raise the temperature of 105oz. of water at 32 deg. to 167 deg., that is, 135 degrees; in all, therefore, 105 times 132 deg. = 14207 degrees of heat. Consequently, the 13·9oz. of carbon which are daily converted into carbonic acid in the body of an adult evolve 13·9 by 14207 deg. = 97477·3 degrees of heat. This amount of heat is sufficient to raise the temperature of 1oz. of water by that number of degrees, or from 32 deg. to 197509·3 deg.; or to cause 136·8lbs. of water at 52 deg. to boil; or to heat 370lbs. of water to 98·3 deg. (the temperature of the human body); or to convert into vapour 24lbs. of water at 98·3 deg.

“If we now assume that the quantity of water vapourized through the

skin and lungs in 24 hours, amounts to 48oz. (three pounds) then there will remain, after deducting the necessary amount of heat, 146380·4 degrees of heat, which are dissipated by radiation, by heating the expired air and in the excrementitious matters.

“In this circulation, no account has been taken of the heat evolved by the hydrogen of the food, during its conversion into water by oxydation within the body. But if we consider that the specific heat of the bones, of fat, and of the organs generally, is far less than that of water, and that consequently they require, in order to be heated to 98·3 deg., much less heat than an equal weight of water, no doubt can be entertained, than when all the concomitant circumstances are included in the calculation, the heat evolved in the process of combustion, to which the food is subjected in the body, is amply sufficient to explain the constant temperature of the body, as well as the evaporation from the skin and lungs.”

The combustion of carbon and oxygen, is not, however, the only source of animal heat. Food contains hydrogen which it also received into the blood. This hydrogen has also a strong affinity for oxygen, and combining with it, forms water. The author has seen—many readers have, doubtless, witnessed the formation of water by the burning together, in a certain fixed proportion, of these two gases. A kindred junction takes place in all parts of the system, and this process both enhances the amount of animal heat, and creates the materials for perspiration.

This brings up for consideration the due regulation of animal heat.

As the temperature of the atmosphere is exceedingly changeable, sometimes 105 deg. Fahrenheit, and again 40 deg. below 0 ; and, as the colder it is, the more rapidly this heat passes off from the body, some means must be contrived for manufacturing, the more heat the colder it is ; and for manufacturing, the less the warmer it is, so as to keep the body just warm enough, and none too warm. This is effected by a self-acting instrumentality as simple as it is efficient, as follows : The colder it is, the more dense the atmosphere ; that is, the greater the quantity of both oxygen and nitrogen it contains in any given bulk. Hence, supposing a male subject inhales at each respiration about three pints of air, as is generally estimated, he of course inhales a much greater amount of oxygen in cold weather than in warm, and a less quantity in summer when he gives off less heat. So that in the very changes of the atmosphere from warm to cold, provision is made for increasing the combustion of oxygen, and the generation of heat within the system. The perfectly healthy subject, therefore, needs much less artificial or external fire in winter than is generally supposed, because nature has provided an increased supply of fuel in the atmosphere in proportion to the increased demand. But we shall recur to this subject again when we come to treat of clothing.

#### SUMMER AND WINTER FOOD.

This principle of animal food also shows why we require more food, and more highly carbonized food, in winter than in summer. As a given amount of oxygen, active or sluggish, can burn up only a fixed proportion of carbon, and as this supply of oxygen is much greater the colder the weather, of course the corresponding re-supply of carbon to be derived from food must be proportionally increased. And so it is. Appetite is almost always greater in cold weather than in warm, and craves more highly-carbonized kinds of food. Thus the fat of meat which consists of 79 per cent, or nearly four-fifths carbon, relishes much better in winter than in summer. So do butter, oils, honey, and the like. Hence the Esquimaux can drink down gallons of train-oil, and eat from ten to twenty pounds of meat per day, or fourteen pounds of candles at a meal. The great condensation of the air consequent on extreme cold, allows them to inhale proportionate quantities of oxygen, to

burn up which they must have this great supply of carbon. We should, therefore, eat more in cold weather than warm, and eat food richer in carbon. This brings up our unfinished argument about meat in winter.

The advocates of a flesh diet maintain that meat is indispensable in winter, to supply the increased demand for carbon. That we need more carbon, and of course food more highly charged with carbon in winter than summer, is granted. Yet their argument is completely overthrown by the fact that vegetable food contains, in the aggregate, as much carbon as animal. Thus, roasted flesh contains only 52 per cent of carbon, while eggs contain 53, and bees'-wax 81. This shows why some relish bees'-wax, namely for its carbon. The albumen of wheat contains 55 per cent of carbon, and that of almonds 57. Indian corn contains a great amount of carbon, so do molasses. In fact, abstract the water from molasses, and the remainder is all carbon; so that molasses and Indian meal form an excellent winter diet. So do bread and molasses. All vegetable oils are composed of about four-fifths of carbon, and as drop after drop of this oil can be pressed out of a walnut, or butternut, of course these nuts furnish a far greater proportion of carbon than lean meat. Why not, then, seek in nuts and vegetable oils the carbon, to obtain which you say we must eat meat? That is, why not eat nuts in the place of meat? Chestnuts should be boiled, and other nuts should be well cured, yet they were undoubtedly created to subserve the purposes of food, and should form a part of our regular winter meals. Nor are nuts inferior to butter as a relish with bread. Sugar, and sweets generally, contain from 40 to 45 per cent of carbon, according to their dryness or wetness. Hence also, as their water is easily taken up by the stomach, they may justly be considered as nearly all carbon. Nearly the whole of honey, after its water has been abstracted, is carbon. Olives, and olive-oil also contain carbon in far greater proportion than meat. We do not, therefore, need to go to the animal kingdom for carbon, when we can obtain it, in forms much more concentrated, from the vegetable. True, we can obtain it from meat, especially fat meat, but we can obtain all we require from vegetables, without any of the evils of meat-eating. Then why seek that carbon in flesh—flesh often diseased—which we can obtain from vegetable diet in greater abundance, and in a healthy state?

The sufficiency of vegetables for winter food is still farther established by the fact that horses, cattle, and even reindeer—all graminivory—are kept abundantly warm by their natural diet, though they inhabit regions quite as cold as any of the carnivora. And indeed the carnivora are more abundant, relatively, in the torrid zone, than colder regions—a fact which tears this winter meat-eating argument in tatters. If meat is so conducive to animal heat and life, why are lions, tigers, etc., confined to warm climates? As oats keep the *horse* abundantly warm in winter, why not oatmeal keep *man* warm enough? Ask the Highland Scotch from time immemorial, if their oatmeal cakes and porridge have not kept them warm enough to camp out even in winter, with snow for the pillow and blanket.

But the great difficulty of civilized life, is, not to get carbon enough, but to get *little* enough. This is especially true of the sedentary. They breathe but little, because they exercise little, and because they live chiefly in heated rooms, where the air is both rarefied and vitiated. Hence they take in but little oxygen, and therefore require but little carbon to burn it up. Yet such eat, and keep eating, as heartily as out-door labourers, and often more; thus taking in great quantities of carbon while they consume but little. Hence their dyspeptic complaints and other difficulties. No; few, if any, require more carbon than they now obtain, even in winter; whereas ninety-nine in every hundred would be benefited by lessening the quantity one half, especially in summer. Its superabundance is the great cause of disease, of which fasting and the use of less highly carbonised food and more oxygen, are the remedies. All who feed better when cold weather sets in,



superabound in carbon, and by taking less of it in food would be cured. But that very cold which brings their relief sharpens up appetite, and they take still more carbon; thus keeping up both its superabundance and their disease; whereas if they could not increase such quantity, meanwhile breathing freely so as to turn up its surplus, they would obtain permanent health. And such, in fact, all, to be healthy, *must* diminish the quantity of carbon taken in food in spring, compared with winter. The great cause of the prevalence of diseases in the spring, is to be found in our eating as much carbon then as in winter; whereas we burn out, and therefore require far less. And one of the great instrumentalities of health is to be found in keeping the amount of carbon received from food, in proportion to that of oxygen inspired from breath.

We dismiss this subject of animal heat for the kindred one of the necessity of fresh air. Oxygen being indispensable to life, and being derived mainly from the air, the necessity for constant and copious re-supplies of fresh and well oxygenated air becomes obvious. And to this the experience of every human being bears testimony. How dull and stupid we all feel after sitting awhile in a hot room, especially if heated by an air-tight stove—an article I would never sit by if I could help it, because, while it rarefies the air so that we can breathe but little oxygen, even if the air were fresh, it prevents its circulation in the room, so that we soon breathe out most that remains. Hence the accompanying stagnation of the blood, and lethargy of body and mind. But start out into the fresh air, and how differently you feel! How lively your body! How brisk all your feelings! How clear the mind! How happy the whole man! Every human being ought to spend several hours every day, cold or warm, in the open air, coupled with much bodily activity. Four hours of out-door breathing daily, is the least time compatible with health for adults. Eight hours are better. Children require a greater amount both of out-door air and exercise, because they have a higher temperature and greater vigour in the circulation. The circulation has more to do in them than in adults—it has to build up as well as to sustain the system. Shutting children up in the house, even in cold weather, is consummate folly—it is downright murder. There is no numbering the deaths this extra carefulness has occasioned. Why, cool air is not poisonous. It is healthy—more so than warm; because, for its bulk, it contains more oxygen, that great quickener of the blood, and stimulator of muscular, nervous, and cerebral action. If a heated atmosphere had been best for man, nature would have provided it. But it is not. It relaxes. All the inhabitants of the tropics are indolent, mentally and physically. All northerners, however active here, are rendered indolent in a tropical climate. Hence the requisition of more or less cold to stir up the system. And unless you who are parents wish to make inert blockheads of your children you should never keep them shut up in a hot room. However cold it is let them out—for all children delight to go out—and their lungs will soon warm them, and keep them warm. And if your dear, darling, delicate, puny child is indeed so weak that fresh air gives it a cold, you ought to be sent to prison for rendering it thus tender—or rather, you ought not to have any child at all.

This brings up for condemnation—the vitiated atmosphere of schoolrooms. Schools are great disease breeders both to the body and mind. Children require action, not confinement. They should learn on foot, not “Sit on a bench and say A.” Especially should they have an abundance of fresh air. To confine two or three score children in a schoolhouse sixteen by twenty feet—enough to breathe up all the air it contains in a few minutes—and to burn out the vitality of even this moiety by a roaring fire, and to keep them thus, stuffed with food, but panting for breath and action, *one quarter of their lives*, and most of the remainder not much better, signs, seals, and delivers the death-warrant of many a fond and lovely embryo of humanity. Our children do not get half air enough. This occasions their being puny,

sickly, and mortal. No wonder that half of them die in childhood. The wonder is that more do not.

Nor are cities the places to bring up children. They cannot go out of doors for fear of getting lost or run over, nor play within doors, because ma, grandma, or aunt is sick. Nor, if they could, can they obtain fresh air in heated nurseries or kitchens. God made the country—man made the city. Cities are useful chiefly to heap up paltry gold. The country, "that's the place for me." But, parents, whether you inhabit city or country, see to it, I beseech you, that your children have a full supply of FRESH AIR DAILY AND PERPETUALLY.

Our subject also shows the absolute necessity of ventilation in general, to say nothing of the importance of ventilating churches, lecture-rooms, and places of general concourse. Hear A. Combe on this subject:—

"The fatal effects of breathing highly vitiated air may easily be made the subject of experiment. When a mouse is confined in a large and tight glass-jar, full of air, it seems for a short time to experience no inconvenience; but in proportion as the consumption of oxygen and the exhalation of carbonic acid proceed, it begins to show symptoms of uneasiness, and to pant in its breathing as if struggling for air; and in a few hours it dies, convulsed exactly as if drowned or strangled. The same results follow the deprivation of air in man and in all animated beings; and in hanging, death results not from dislocation of the neck, as is often supposed, but simply because the interruption of the breathing prevents the necessary changes from taking place in the constitution of the blood.

"The horrible fate of one hundred and forty-six Englishmen who were shut up in the Black Hole of Calcutta, in 1756, is strikingly illustrative of the destructive consequences of an inadequate supply of air. The whole of them were thrust into a confined place, eighteen feet square. There were only two very small windows by which air could be admitted, and as both of these were on the same side, ventilation was utterly impossible. Scarcely was the door shut upon the prisoners when their sufferings commenced, and in a short time a delirious and mortal struggle ensued to get near the windows. Within four hours those who survived lay in the silence of apoplectic stupor; and at the end of six hours NINETY-SIX were relieved by death! In the morning, when the doors were open, twenty-three only were found alive, many of whom were subsequently cut off by putrid fever, caused by the dreadful effluvia and corruption of the air.

"But, it may be said, such a catastrophe as the above could happen only among a barbarous and ignorant people." One would think so; and yet such is the ignorance prevailing amongst ourselves that more than one parallel to it can be pointed out even in our own history. Of two instances to which I allude one has been lately published in the "Life of Crabbe," the poet. When ten or twelve years of age Crabbe was sent to a school in Bungay. Soon after his arrival he had a very narrow escape. He and several of his school-fellows were punished for playing at soldiers by being put in a large dog-kennel, known by the terrible name of the "Black Hole." George was the first that entered, and, the place being crammed full of offenders, the atmosphere became pestilentially close. The poor boy in vain shrieked that he was about to be suffocated. At last, in despair, he bit the lad next to him violently in the hand. "Crabbe is dying! Crabbe is dying!" roared the sufferer; and at length the sentinel opened the door and allowed the boys to rush out into the air. My father said, "A minute more, and I must have died."—*Crabbe's Life, by his Son.*

"The other instance is recorded in 'Walpole's Letters,' and is the more memorable because it was the pure result of brutal ignorance, and not at all of cruelty or design. 'There has been lately,' says Walpole, 'the most shocking scene of murder imaginable; a parcel of DRUNKEN constables took it into their

heads to put the laws in execution against disorderly persons, and so took up every person they met, till they had collected five or six and twenty, all of whom they thrust into St. Martin's Round House, where they kept them all night, with doors and windows closed. The poor creatures, who could not stir or breathe, screamed as long as they had any breath left, begging at least for water. One poor wretch said she was worth eighteen-pence and would gladly give it for a draught of water, but in vain! So well did they keep them there that in the morning four of them were found stifled to death; two died soon after, and a dozen more are in a shocking way. In short, it is horrid to think what the poor creatures suffered. Several of them were beggars, who from having no lodging were necessarily found on the street, and others honest labouring women."

Our author next gives the case of two persons confined in the cabin of a vessel, who perished from the want of air. He might, if he had written a little later, have given the awful case of a steamer that sailed from Londonderry to Liverpool about a year ago. The weather was somewhat stormy, and the captain forced the passengers down into the hold, and fastened down the hatches. The consequence was that in a few hours from seventy to eighty persons perished.

The writer then proceeds as follows:—

"I do not mean to say that in the above instances the fatal results were attributable exclusively to vitiation of the air by breathing. Fixed air may have been disengaged also from some other sources; but the deteriorating influence of respiration, where no ventilation is possible, cannot be doubted. According to Dr. Bostock's estimate an average-sized man consumes about 45,000 cubic inches of oxygen, and gives out about 40,000 of carbonic acid in twenty-four hours, or 18,750 of oxygen, and 16,666 of carbonic acid in ten hours, which is nearly the time during which the sufferers had remained in the cabin before they were found. As they were two in number the quantity of oxygen which would have been required for their consumption was equal to 37,500 cubic inches, while the carbonic acid given out would amount to upwards of 32,000 inches—a source of impurity which, added to the constant exhalation of waste matter and animal effluvia from the lungs, was manifestly quite equal to the production of the serious consequences which ensued from it, and which no one properly acquainted with the conditions essential to healthy respiration, would ever have willingly encountered. Even supposing that the cause of death was some disengagement of gas within the vessel it is still certain that, had the means of ventilation been adequately provided, this gas would have been so much diluted and so quickly dispersed that it would have been comparatively innocuous.

"The best and most experienced medical officers of the army and navy are always the most earnest in insisting on thorough ventilation, as a chief preservative of health, and as indispensable for the recovery of the sick. Sir George Ballingall refers to it frequently, and shows the importance attached to it by Sir John Pringle, Dr. Jackson, Sir Gilbert Blane, and others of equally high authority. Sir John Pringle speaks of hospitals being in his day the cause of much sickness and of frequent deaths, 'on account of the bad air and other inconveniences attending them;' and Dr. Jackson, in insisting on height of roof as a property of great importance in a house appropriated to the reception of the sick armies,' adds as a reason, 'that the air being contaminated by the breathing of a crowd of people in a confined space, disease is originated and mortality is multiplied to an extraordinary extent. It was often proved in the history of the late war that MORE HUMAN LIFE WAS DESTROYED BY ACCUMULATING SICK MEN IN LOW AND ILL-VENTILATED APARTMENTS THAN BY LEAVING THEM EXPOSED IN SEVERE AND INCLEMENT WEATHER AT THE SIDE OF A HEDGE OR COMMON DIKE.'

"In the same volume (p. 114) the reader will find another example not less

painful than instructive, of the evils arising, first, from crowding together a greater number of human beings than the air of the apartment can sustain; and, secondly, from the total neglect of scientific rules in effecting ventilation. In the summer of 1811 a low typhoid fever broke out in the 4th battalion of the Royals, then quartered in Stirling Castle. In many instances violent inflammation of the lungs supervened, and the result of the two diseases was generally fatal. On investigating the circumstances of this fever it was found that rooms of twenty-one feet by eighteen were occupied by SIXTY men, and that others of thirty-one feet by twenty-one were occupied by SEVENTY-TWO men! To prevent suffocation the windows were kept open all night, so that the men were exposed at once to strong currents of cold air and to 'the heated and concentrated animal effluvia necessarily existing in such crowded apartments, thus subjecting them to the combined effects of typhus fever and of pneumonic inflammation.' In the less crowded apartments of the same barracks no instances of fever occurred. The men who were directly in the way of the current of cold air were of course those who suffered from inflammation.

"Mr. Carmichael justly regards impure air as one of the most powerful causes of scrofula, and accounts for the extreme prevalence of the disease in the Dublin House of Industry at the time he wrote (1809), by mentioning that in one ward of moderate height, sixty feet by eighteen, there were *thirty-eight beds*, each containing *three children*, or more than one hundred in all! The matron told Mr. Carmichael, 'there is no enduring the air of this apartment when the doors are first thrown open in the morning; and it is in vain to raise any of the windows, as those children who happen to be inconvenienced by the cold close them as soon as they have an opportunity. The air they breathe in the day is little better; many are confined to the apartments they sleep in, or crowded to the number of several hundreds in the schoolroom.' Can any one read this account and wonder at the presence of scrofula under such circumstances?"

The due ventilation of sleeping apartments is still more important, because we consume quite as great a proportion of air asleep as awake, yet are far more liable to neglect its resupply. Most of us spend one-third of our lives in little eight by ten feet bedrooms, scarcely seven feet high, and capable of holding only from five to seven hundred feet of air—scarcely enough for an hour's breathing! And then every crevice, even to the key-hole, must be stuffed to prevent the ingress of fresh air. Look at our factory operatives, often six persons confined all night in a little room not exceeding ten feet square and seven feet high. No wonder their vocation is unhealthy; and then how repulsive the smell of bedrooms generally in the morning, observable on quitting them a few minutes and returning. Instead of being thus miserably supplied with fresh air, they should be large, and especially high, and arranged so as to admit free ventilation. A draft directly upon you may be objectionable, yet even this is less so than confined air. Large airy sleeping apartments would add one-fourth to the aggregate duration of human life. The bedrooms should be the largest rooms in our houses.

Yet the general idea obtains that night air is unwholesome and often pestilential. Nothing is more unfounded. The deity render night air unwholesome, and then compel us to breathe it! This supposition conflicts with the whole economy of nature. If night air had been really injurious nature would have allowed us to sleep without breathing, for she never compels the least thing injurious. Night air is as wholesome as day air. It may be damper, but that does not hurt it for breathing purposes. It is usually cooler, and therefore contains more oxygen, and is, therefore, even better than day air, at least for sleeping purposes. Why are we so restless in hot summer nights, and why do we sleep so sweetly and wake up so invigorated in cold autumn nights. but because the unceded supply of oxygen

is so much greater in the latter instance? So far from being injurious, I give it as my deliberate opinion that sleeping with open windows would greatly promote health. I prefer to do so, however stormy and boisterous the weather, and know of several who sleep thus summer and winter, every one of whom is remarkably robust and healthy. Yet if you adopt this practice, adopt it by degrees, so as not to take cold.

Special attention is invited to blue veins, a sign of insufficient breathing. The blood is rendered dark by the carbon it has taken up; and the darker it is the greater the amount of carbon in it. Now this carbon should pass off through the lungs, and it will do so when we breathe abundantly. But when we do not a sufficient amount of the nitrogen contained in the air we breathe is not brought alongside of the carbonic acid contained in the blood to carry it all off, so that it is obliged to return into the blood into the system, and being a rank poison, it poisons and prostrates the vital organs, diminishes life, and engenders disease. Blueness of veins in children or adults is a sure index of the superabundance of this poison and of insufficient breathing. Let such both eat less and breathe more so as to thin and redden the blood. True, the blood in the veins should be dark, but not dark enough to show through; and when visible, see to it, as you value life, that this powerful disease-breeder is removed by a more thorough oxidization of the blood.

An entire volume might be written on this subject of ventilation; but all-important as it is, our proposed limits do not allow it farther prosecution. We say, in conclusion, attend to breathing as much as to eating. Make provision for a constant resupply of fresh, as much as for good, food. And ye parents, see that your children have it in luxurious abundance night and day.

#### PERSPIRATION, OR THE STRUCTURE, FUNCTIONS, AND CLEANSING OF THE SKIN.

##### WATER ESSENTIAL TO LIFE.

Water covers a great part of the earth's surface, and constitutes a large proportion of all that lives. Nor can anything grow without it, nor can any dry thing live. The ancients supposed it the parent of all endowed with life, and experience teaches us that without it plant and animal parch up and die.

Man cannot live without it. Indeed, three-fourths of him are composed of water, and so are four-fifths of his blood. Whether this element is required on its own account, or as the great PORTER of the system, we will not now stop to inquire; but, be its use what it may, it is even as essential to life as solid food.

If asked, "How then could Dr. Alcott live over a year without drinking a drop of liquid, and even without experiencing thirst?" I answer, "All we eat contains water. Meat consists of about three-fourths water; carrots, beets, turnips, potatoes, and cabbages, about nine-tenths; eggs about seven-tenths; milk nearly nine-tenths; and thus of other kinds of food. So that we cannot eat without introducing it into the animal economy."

But man was undoubtedly ordained to drink as well as eat. To this end he has a drinking organ—Bibateness or Aquateness—located anteriorly to Alimentiveness, adapting him both to the existence of water and this constitutional demand for drink. Water is also manufactured throughout every portion of the system. Whether we drink water or not, whether it abounds in the system or is deficient, we are obliged to receive hydrogen in the system with our food and oxygen through our lungs, so that these two gases are forced into close proximity in the capillary blood-vessels, and whenever thus brought together they unite in the proportion to form water till one or the other is consumed. So that with all this demand for water, man could probably exist without taking any water except in his food.

The water thus taken into the system and manufactured within it does not remain there. It is perpetually given off through the lungs, the skin, and every avenue of escape throughout the body. The amount given off by a healthy adult daily is estimated at about forty ounces, though it varies in different individuals, and in the same individual at different times, according as he drinks, exercises himself, and the like, much or little.

The lungs exhale large quantities of water, as seen in breathing upon glass, and its freezing upon the beard in a cold morning. The moisture expired with the breath in a crowded room also occasions that "sweating" of the windows so often observed.

But the great outlet for the escape of water, after it has fulfilled its mission of life, is through the skin. This thin and exceedingly tough membrane is stretched over the entire body, and also lines all its apertures. It consists of three coatings—the circle or epidermis, a horny, insensible over-coat, such as we see often rubbed up by bruises and raised in blisters. This outside skin is thin over the joints, so as not to obstruct their motion, but thick in the palms of the hands and soles of the feet, even from birth. The second coating, called *rete mucosum*, or mucous network, constitutes the middle coating, and contains that colouring matter which gives the various races their various colours. The *cutis*, *dermis*, or true skin, is the great instrumentality of sensation, absorption, and exhalation.

This cutis is perfectly full of little pores, thousands being contained in every square inch. It is also filled with two sets of capillary nerves and blood-vessels, the latter being especially numerous here, so as to support the former, and thus create sensation. Indeed, it is probably composed mainly by these tissues, and its innumerable pores are probably formed by their interweaving. Through these pores the waste water, and much of the excrementitious matter engendered during the vital process, escapes, causing the perspiration to be sensible or insensible according as it is more or less copious. Sensible perspiration causes sweat to ooze out and stand in drops, or run down in streams from the body, as when we take violent exercise in hot weather, drink copiously of warm water, and the like.

Insensible perspiration is perpetually taking place from all parts of the skin. This may be ascertained by inserting the hand in a glass tumbler, turned bottom upwards, or by laying the hand in a glass, or even drawing the finger slowly across it.

A contrivance so deeply laid as this of perspiration, cannot but perform some most important end in the animal economy. And so it does. These forty ounces of water do not stream forth perpetually from the system alone, but bring along out with them much of the waste matter engendered by the vital process. The process of life is one of perpetual waste. It is estimated that all the matter in the system, at any given time, becomes useless, because its vitality is "used up," is carried off, and its place re-supplied by foreign substances, every seven years. Probably, half that time would be nearer the fact. Of course, if this matter were allowed to remain where it is created, the system would soon be choked up. To prevent this, it is carried off as fast as it is manufactured.

It is carried off by that same porter which brought it—WATER. As the blood brings a load of oxygen, and, as soon as it is unloaded, takes on the carbonic acid created by the combustion of the oxygen, so, after the water in the blood has brought out and deposited its freight of fresh muscle, nerve, etc., it takes on another freight of waste matter, and issues forth out of the system in the form of steam.

More than half of the refuse of all we eat, drink, and take into the system is thus carried off. Though the kidneys, bowels, and lungs do their share in evacuating this waste matter, yet the skin is the great sluice-way—the great scavenger of life, which collects up the leavings and filth out of the highways and byways of the system, and empties them out.

This shows the importance of keeping the pores of the skin open. If these pores be closed, this waste matter both clogs the organs of life on the one hand, and breeds disease in the system on the other. For be it remembered, that most of this waste matter, like carbonic acid, is POISONOUS as well as in the way. It *must pass out*, or extinguish life. A. Combe ably enforces this point as follows :—

“In tracing the connection between suppressed perspiration and the production of individual diseases, we shall find that these organs which possess some similarity of function, sympathise most closely with each other. Thus the skin, the bowels, the lungs, the liver, and the kidneys, sympathise readily, because they have all the common office of throwing waste matter out of the system, each in a way peculiar to its own structure ; so that if the exhalation from the skin, for example, be stopped by long exposure to cold, the large quantity of waste matter which it was charged to excrete, and which in itself is hurtful to the system, will most probably be thrown upon one or other of the above-named organs, whose functions will become consequently excited, and if any of them from constitutional or accidental causes, be already weaker than the rest, as often happens, his health will naturally be the first to suffer. In this way, the bowels of one individual become irritated, and occasion bowel complaint ; while in another it is the lungs which have been affected, giving rise to catarrh, or common cold, or perhaps even to inflammation. When, on the other hand, these organs are in a state of vigorous health, a temporary increase of function takes place in them, and relieves the system, without leading to any local disorder ; and the skin itself especially resumes its activity, and restores the balance among them.

“One of the most obvious illustrations of this reciprocity of action is afforded by any convivial company seated in a warm room on a cold evening. The heat of the room, the food, and wine, and the excitement of the moment, stimulate the skin, cause an efflux of blood to the surface, and increase in a high degree the flow of the insensible perspiration ; which thus, while the heat continues, carries off an undue share of the fluids of the body, and leave the kidneys almost at rest. But the moment the company goes into the cold external air, a sudden reversal of operations takes place ; the cold chills the surface, stops the organs, which presently becomes excited—and under this excitation, the kidneys, for example, will in a few minutes secrete as much of their peculiar food as they did in as many of the preceding hours. The reverse of this again is common in disease obstructing the secretion from the kidneys ; for the perspiration from the skin is then altered in quantity and quality, and requires much of the peculiar smell of the urinary fluid.

“When the lungs are weak, and their lining membrane is habitually relaxed, and secretes an unusual amount of mucus from its surface, the mass thrown inwards upon the lungs by cold applied to the skin. increases that secretion to a high degree. Were this secretion to accumulate, it would soon fill up the air cells of the lungs, and cause suffocation ; but to obviate this danger, the Creator has so constituted the lungs, that accumulated mucus or any foreign body coming in contact with them, excites the convulsive effort called coughing, by which a violent and rapid expiration takes place, with a force sufficient to hurry the mucus or other foreign body along with it ; just as peas are discharged by boys with much force through short tubes by a sudden effort by blowing. Thus, a check given to perspiration by diminishing the quantity of blood previously circulating on the surface, naturally leads very often to increased expectoration and cough, or in other words to common cold.

“The lungs excrete, as already noticed, and as we shall afterwards more fully see, a large proportion of waste materials from the system ; and the kidneys, the liver, and the bowels, have in so far a similar office. In consequence of

his alliance with the skin, these parts are more intimately connected with each other in healthy and diseased action than with other organs. But it is a general law that whenever an organ is usually delicate, it will be affected by any cause of disease more easily than those which are sound : so that if the nervous system, for example, be weaker than other parts, a chill will be more likely to disturb its health than that of the lungs, which are supposed, in this instance, to be constitutionally stronger ; or if the muscular and fibrous organisations be unusually susceptible of disturbance, either from previous illness or from natural predisposition, *they* will be the first to suffer, and rheumatism may ensue, and so on. And hence the utility to the physician of an intimate acquaintance with the previous habits and constitutions of his patients, and the advantage of adapting the remedies to the nature of the cause when it can be discovered, as well as to the disease itself. A bowel complaint, for instance, may arise from over-eating as well as from a check to perspiration ; but although the thing to be cured is the same, the MEANS of cure ought obviously to be different. In the one instance, an emetic or laxative to carry off the offending cause, and in the other a diaphoretic to open the skin, will be the most rational and efficacious remedies. Facts like these expose well the glaring ignorance and effrontery of the quack, who affirms that his one remedy will cure every form of disease. Were the public not equally ignorant with himself, their credulity would cease to afford to his presumption the rich field in which he now revels.

“ The close sympathy between the skin and the stomach and bowels has often been noticed, and it is now well understood that most of the obstinate eruptions which appear on the face and the rest of the surface owe their origin to disorders of the digestive organs, and are most successfully cured by treatment directed to the internal disease. Even among the lower animals the sympathy between the two is so marked as to have arrested attention. Thus, in speaking of the horse, Delabere Blaine says : ‘ By a well-known consent of parts between the skin and alimentary canal in general, but between the first passage and the stomach in particular, it follows, in almost every instance, that when one of these becomes affected, the other takes on a sympathetic derangement also, and the condition is then morbid throughout. From close observation and the accumulation of numerous facts, I am disposed to think that so perfect is the sympathetic consent between these two distant parts or organs that they change the order of attack as circumstances occur. Thus, when the skin is primarily affected, the stomach becomes secondarily so, and *vice versa*, so that a sudden check to the natural or acquired heat of the body, particularly if aggravated by the evaporation of a perspiring state, as often brings on disease of some internal organ as if the cause were applied to the organ itself.”

“ In noticing this connection between the suppression of perspiration and the appearance of internal disease, I do mean to affirm that the effect is produced by the physical transference of the suppressed inhalation to the internal organ. In many instances the chief impression seems to be made on the nervous system ; and the manner in which it gives rise to the resulting disease is often extremely obscure. Our knowledge of the animal function is, indeed, still so imperfect that we daily meet with many occurrences of which no explanation can be given. But it is, nevertheless, of high utility to make known the fact that a connection does exist between two orders of phenomena, as it calls attention to their more accurate observation, and leads to the adoption of useful practical rules, even when their mode of operation is not understood. Nothing, indeed, can be more delusive than the rash application of mere physical laws to the explanation of the phenomena of living beings. Vitality is a principle superior to, and in a continual warfare with the laws which regulate the actions of inanimate bodies ; and it is only after life has become extinct that these laws regain the mastery, and lead to the rapid



decomposition of the animal machine. In studying the functions of the human body, therefore, we must be careful not to hurry to conclusions before taking time to examine the influence of the vital principle in modifying the expected results.

“It is in consequence of the sympathy and reciprocity of action existing between the skin and the internal organs that burns and even scalds of no very great extent prove fatal, by inducing internal, generally intestinal, inflammation. By disordering or disorganising a large nervous and exhaling surface an extensive burn causes, not only a violent nervous commotion, but continued partial suspension of an important excretion; and when death ensues at some distance of time, it is almost always in consequence of inflammation being excited in the bowels or sympathising organ. So intimate, indeed, is the connection that some surgeons of great experience, such as the late Baron Dupuytren, of the Hotel Dieu, while they point to internal inflammation in such cases as the general cause of death, doubt if recovery ever takes place when more than one-eighth of the surface of the body is severely burnt. And whether this estimate be correct or not, the facts from which it is drawn clearly demonstrate the importance of the relation subsisting between the skin and the other excreting organs.

“In some constitutions a singular enough sympathy exists between the skin and the bowels. Dr. A. T. Thomson, in his work on ‘Materia Medica’ (p. 42), mentions that he is acquainted with a clergyman who cannot bear the skin to be sponged with vinegar and water, or any diluted acid, without suffering spasm and violent griping of the bowels. The reverse operation of this sympathy is exemplified in the frequent production of nettle-rash and other eruptions on the skin by shell-fish and other substances taken into the stomach. Dr. Thomson tells us that the late Dr. Gregory could not eat the smallest portion of the white of an egg without experiencing an attack of an eruption like nettle-rash. According to the same author, even strawberries have been known to cause fainting, followed by a petechial efflorescence of the skin.

“We have seen that the insensible perspiration removes from the system, without trouble and without consciousness, a large quantity of useless materials, and at the same time keeps the skin soft and moist, thereby fitting it for the performance of its functions as the organ of an external sense. In addition to these purposes, the Creator has, in his omniscience and foresight, and with that regard to simplicity of means which betokens a profoundness of thought inconceivable to us, superadded another, scarcely less important, and which is in some degree implied in the former; I mean the proper regulation of the bodily heat. It is well known that in the polar regions and in the torrid zone, under every variety of circumstances, the human body retains nearly the same temperature, however different may be that of the air by which it is surrounded. This is a property peculiar to life, and in consequence of it even vegetables have a power of modifying their own temperature, though in a much more limited degree. Without this power of adaptation, it is obvious that man must have been chained for life to the climate which gave him birth, and even then have suffered constantly from the change of seasons; whereas, by possessing it, he can retain life in a temperature sufficiently cold to freeze mercury, and is able for a time to sustain, unharmed, a heat more than sufficient to boil water, or even to bake meat. Witness the wintering of Captain Parry and his companions in the polar regions; and the experiments of Blagden, Sir Joseph Banks, and others, who remained for many minutes in a room heated to 260 deg., or about 50 deg. above the temperature of boiling water. The chief agents in this wonderful adaptation of man to his external situation are undoubtedly the skin and lungs, in both of which the power is intimately connected with the condition of their respective exhalations. But it is of the skin alone, as an agent in reducing animal heat, that we are at present to speak.

"The sources of animal heat are not yet demonstrably ascertained; but that it is constantly generated and constantly expended has been long known; and if any considerable disproportion occurs between these processes it is at the immediate risk of health. During repose, or passive exercise, such as riding in a carriage or sailing, the surplus heat is readily carried off by the insensible perspiration from the lungs and skin, and by the contact of the colder air; but when the amount of heat generated is increased, as during excessive exercise, an increased expenditure becomes immediately necessary."

#### COLDS AND THEIR CONSEQUENCES.

Colds are caused by SUPPRESSED PERSPIRATION. Cold contracts. Hence a sudden change of the temperature of the skin from heat to cold, causes its pores to contract; and some of them to close. This shows why we perspire so little in colds, especially obdurate colds—and also in fevers. Nor do colds consist in anything else than this closing of these pores. And the injury they inflict arises mainly from their shutting up this waste matter in the system. And the reason why, during colds, the lungs, nose, etc., discharge copiously a thick, yellow phlegm, is, that this corruption, shut in by the closing of these pores, is carried to the lungs, and converted into phlegm, to the kidneys, bowels, and even to the brain, and discharged through the nose and all the other outlets; and hence that increase of all these secretions as mentioned by Combe.

Many of us know by experience, that these colds are exceedingly troublesome—know how dull, feverish, restless, and miserable they render us, and how full of aches and pains they sometimes fill us. Colds are a great cause of tooth-aches. If you have a bad tooth, it rarely troubles you except after you have taken cold, and the way to cure this painful malady is, to cure that cold which is its exciting cause.

Fevers are too mainly the result of colds. Both fever and ague make their attacks in company with colds. Avoid colds and you escape them. And those occasional distempers or epidemics which sweep over city and country, affecting nearly all, prostrating many, and cutting off more or less in the midst of life, are generally only colds, and are thus prevalent because certain states of the atmosphere have conspired to occasion colds, and these colds occasion choleras, influenzas, or other diseases. Avoid these colds, and these plagues will pass you by. But you cannot have a cold without having more or less of fever. Hence the fallacy of that proverb, "stuff a cold and starve a fever," for colds cause fevers. Bilious attacks, and the like, will also be found often to follow very severe colds. They generally commence with chills, as colds do. And though the stomach is also disabled, the stomach would not have been broken down in those attacks but for the cold. It may have been previously foul, and thus generated, by means of imperfect digestion, a great amount of corruption; still, open pores would have contrived to carry it off; whereas, this outlet closed, it accumulates, obstructs, poisons, and at length prostrates the system, perhaps destroys life. I regard colds as the cause of more than half the diseases of our climate—of nearly *all* except those created by impaired digestion. Keep *clear* of colds, and you will generally escape disease. As so much of the waste matter of the vital process escapes through the skin, why should not the closing of this avenue occasion so great a proportion of the diseases prevalent? Many will think I attribute more disease to colds than really belongs to them; but let such look at the universal fact, that they always precede and induce consumption, that great mowder of human life. Did you ever know a consumptive patient whose attack did not set in after a terrible cold—a cold generally protracted and aggravated? Colds induce coughs, as just explained by Combe, and that pulmonary irritation, cough, and final consumption of the lungs, which constitutes this mortal

enemy to life, consist in nothing more or less than an obstinate cold. I care not how predisposed, hereditarily or otherwise, persons may be to consumption, they will seldom have it till they take a "heavy cold." Those predisposed to consumption, should in a special manner guard against contracting colds, and when they take cold, they should break them up as QUICKLY AS POSSIBLE ; for their life depends upon the issue.

Children still farther illustrate this principle. They rarely if ever sicken till they get COLD. Of the correctness of this assertion, let observation be the test. All colds do not make them quite sick, yet they very rarely become sick till they have taken cold. Keep them from taking cold, and I will guarantee them against sickness. Even when their disease appears to be seated in the stomach or other organs, its origin will generally be suppressed perspiration, as shown in the extracts from Combe. Almost all cramps and lung difficulties, are products of colds. So are almost all brain-fevers. So are influenzas, and almost all complaints incident to childhood. Keep the young from taking colds, or break up all colds as soon as contracted, and they will seldom be sick.

Rheumatic affections also prove and illustrate our doctrine. It is submitted to all thus afflicted, be it more or less, whether these pains in their joints, muscles, and bones are not doubled and redoubled every time they take cold. The same holds true of the headache—often a rheumatic affection of the brain.

An anecdote. While lecturing in East Bradford, Mass., in 1844, a promising youth took a most violent cold which induced a corresponding violent fever, and hurried him into his grave. Another brother, while attending the funeral of this one, also took a terrible cold, which in a few days swept him also into eternity ! A sister, exhausted by watching this brother, also took a very severe cold while attending his funeral, and, in consequence, was soon bereft of reason, and then attacked with a scorching fever, of which she died in about a week. All three deaths were distinctly traceable to colds. Three or four other members of this self-afflicted family were also sick simultaneously of colds, the weather at the time of these funerals being particularly unfavourable.

Reader, trace the sickness around you and back up to its cause, and you will be surprised to find colds the author of so many. Recall your own ailments, and see if this principle does not explain the origin of many of them.

But why particularize farther? Do not the experience and the observation of most prove that colds are one of the chief causes of disease ?

The prevention of colds, therefore, becomes a very important matter. To consumptive subjects, such prevention is life, as these colds are death. How, then, can they be prevented ?

1. BY KEEPING THE SKIN ACTIVE. The system manufactures a great amount of heat. That heat is abundant at the surface, so as to fortify it against those changes of temperature which affect the skin mainly. Hence the great accumulation of blood-vessels at the surface of the body. Probably no part of the body, the head possibly excepted, is so abundantly supplied with blood-vessels as the skin. Hence its warmth. Now vigorous circulation will keep these pores so warm as to resist the closing action of the external cold. In such cases these atmospheric changes do no evil. They close the pores only when the surface circulation has become impaired. Keep that vigorous, and it will ward off all colds, extreme cases of exposure excepted. Whatever tends to promote the activity of the skin, fortifies the system against colds. The two means of promoting such action, are the promotion of circulation in general, and the external application of friction and water.

To say nothing of the ablation of the entire person as a means of cleanliness, or of the surprising quantity of scurf brought off by occasional baths and friction, and the consequent opening of the pores, the habitual practice of bathing will be found effectually to fortify the system against colds. Though

constitutionally consumptive, and predisposed to colds, the author has not taken a cold on the average in two years since he adopted the practice of bathing regularly every day or two, and all he has taken, except one, have been contracted after he had suspended these baths for weeks previously, because especially inconvenient. The wealth of Astor would not compensate for a discontinuance of this practice, because colds, with all their evils, would soon follow, and inevitably usher in consumption, and thus end his days. And any reader not accustomed to frequent bathing, would actually find a greater prize in its use, than if he should inherit the fortune of all the Rothschilds; because, by removing disease and prolonging life, it would promote general enjoyment more than all the wealth of the world! Nothing would tempt me to do without my bath. Its habitual use renders me *cold proof*, and keeps both hereditary and acquired pre-dispositions to disease at bay, as well as doubles and trebles my ability to endure both physical and mental exertion. Even as a luxury, it is equalled only by food and sleep. I go to it, not with dread, but with alacrity, on account of the pleasure it gives me. And this pleasure is the greater the colder the weather, because of the great reaction and subsequent delightful glow. Still, it must be rightly managed, else it results in evil proportionate to its good. The cold bath should never be taken except where there is sufficient energy in the system to produce a delightful reaction and subsequent glow—the sure signs and concomitants of its utility. A. Combe remarks on this point as follows:—

“The tepid or warm bath seems to me much more suitable than the cold bath, especially in winter, for those who are not robust and full of animal heat. Where the constitution is not sufficiently vigorous to secure reaction after the cold bath, as indicated by a warm glow over the surface, its use inevitably does harm. A vast number of persons are in this condition; while on the contrary, there are few, indeed, who do not derive evident advantage from the regular use of the tepid bath, and still fewer who are hurt by it.

“Where the health is good, and the bodily powers are sufficiently vigorous, cold baths may serve every purpose required from them. But it should never be forgotten that they are too powerful in their agency to be used by EVERY one, especially in cold weather. In proportion as cold bathing is influential in the restoration of health when judiciously used, it is hurtful when resorted to without discrimination; and invalids, therefore, ought never to have recourse to it without the sanction of their professional advisers.

“Even where cold bathing is likely to be of service, when judiciously employed, much mischief often results from prolonging the immersion too long, or from resorting to it when the vital powers are too languid to admit of the necessary reaction—after fatigue, for example.

“For those who are robust, daily sponging of the body with cold water, or with salt water, is the best substitute for the cold bath, and may be resorted to with safety and advantage in most states of the system; especially when care is taken to excite in the surface, by subsequent friction with the towel, the healthy glow of reaction. It then becomes an excellent preservative from the effects of changeable weather. When, however, a continued sensation of coldness and chill are perceptible over the body, sponging ought not to be persisted in; dry friction, aided by the tepid bath, is then greatly preferable, and often proves highly serviceable in keeping up the due action of the skin.

“For habitual use, the tepid or warm bath is certainly the safest and most valuable for invalids, especially during the autumn, winter, and spring. A temperature ranging from 85 deg. to 98 deg., according to the state of the individual, is the most suitable; and the duration of the immersion may vary from fifteen minutes to an hour or more, according to circumstances.

That bathing is a safe and valuable preservative of health in ordinary circumstances, and an active remedy in disease, is most certain. Instead of being dangerous by causing liability to cold, it is, when well managed, so

much the reverse, that the author of these pages has used it much and successfully for the express purpose of diminishing such liability, both in himself and in others, in whom the chest is delicate. In his own instance, in particular, he is conscious of having derived much advantage from its regular employment, especially in the colder months of the year, during which he has uniformly found himself most effectually strengthened against the impression of cold, by repeating the bath at shorter intervals than usual.

"In many manufactories, where warm water is always obtainable, it would be of very great advantage to have tepid baths erected for the use of the operatives. Not only would these be useful in promoting health and cleanliness, but they would, by their refreshing and soothing influence, diminish the craving for stimulants which leads so many to the gin shop; and, at the same time, calm the irritability of mind so apt to be induced by excessive labour. Where the trade is dirty, as many trades necessarily are, it is needless to say how conducive to health and comfort a tepid bath would be on quitting it for the day.

"On the Continent the vapour and hot air baths are had recourse to, both as a means of health and in the cure of disease, to a vastly greater extent than they are in this country. Their use is attended by the very best effects, particularly in chronic ailments, and where the water-bath is felt to be oppressive by its weight; and there can be no question that their action is chiefly on the skin, and through its medium on the nervous system. As a means of determining the blood to the surface, promoting cutaneous exhalation, and equalizing the circulation, they are second to no remedy now in use; and consequently, in a variety of affections, which the encouragement of these processes is calculated to relieve, they may be applied with every prospect of advantage. The prevailing fear of catching cold, which deters many from using the vapour bath, even more than from warm bathing, is founded on false analogy between its effects and those of profuse perspiration from exercise or illness. The latter weakens the body, and, by diminishing the power of reaction, renders it susceptible of injury from sudden changes of temperature, but the effect of the vapour bath properly administered is very different. When not too warm or too long continued, it increases instead of exhausting the strength, and, by exciting the vital action of the skin, gives rise to a power of reaction which enables it to resist cold better than before. This I have heard many patients remark; and the fact is well exemplified in Russia and the north of Europe, where in the depth of winter, it is not uncommon for the natives to rush out of a vapour bath and roll themselves into the snow, and be refreshed by doing so; whereas, were they to attempt such a practice after severe perspiration from exercise, they would inevitably suffer. It is the previous stimulus given to the skin by the vapour bath which is the real safeguard against the coldness of the snow.

"Common experience affords another illustration of the same principle. If, in a cold winter day, we chance to sit some time in a room imperfectly warmed, and feel in consequence a sensation of chillness over the body, we are much more likely to catch cold on going out than if we had been sitting in a room comfortably warm. In the latter case the cutaneous circulation and nervous action go on vigorously; heat is freely generated, and the vital action of the skin is in its full force. The change to a lower temperature, if accompanied with exercise to keep up vitality, is then felt to be bracing and stimulating rather than disagreeable. But it is widely different when the surface is already chilled before going out. The vitality of the skin being diminished, reaction cannot follow additional exposure; the circulation leaves the surface and becomes still more internal; and if weakness exist in the throat or chest, cold is the almost certain result. Many suffer from ignorance of this principle.

"The vapour bath is thus calculated to be extensively useful, both as a

preservative and a remedial agent. Many a cold and many a rheumatic attack arising from checked perspiration or long exposure to the weather might be nipped in the bud by its timely use. In chronic affections, not only of the skin itself, but of the internal organs with which the skin most closely sympathises, as the stomach and intestines, the judicious application of the vapour bath is productive of great relief. Even in chronic pulmonary complaints it is, according to the Continental physicians, not only safe, but very serviceable; particularly in those affections of the mucous membrane which resemble consumption in so many of their symptoms. Like all powerful remedies, however, the vapour bath must be administered with proper regard to the condition and circumstances of the individual; and care must be taken to have the feet sufficiently warm during its use. If, from an irregular distribution of the steam, the feet be left cold, headache and flushing are almost sure to follow."

My own preferences side unequivocally in favour of the *hand* bath as preferable to all others, because it is more easily applied, requires much bodily exertion, which facilitates the required reaction, and can be discontinued the instant a chilly sensation begins to supervene, beyond which no bath should ever be continued a single moment. Salt added to the water facilitates this reaction by exciting the skin, as does also sea-bathing, which, under certain circumstances, is most excellent. But we dismiss this subject till we come to treat of water as a remedial agent.\*

The cure of colds by perspiration next comes up for discussion, for if they can be cured soon after having been contracted the accumulation of waste matter will be trifling, and the cold only slightly injurious. How then can colds be cured?

By OPENING THE PORES, the closing of which caused them. This opening can be effected in part by washing and rubbing, but PERSPIRATION forces them open more effectually than probably any other means whatever. Indeed, it is a great antidote of colds. Nor is it material what induces perspiration so that it is copious, and does not eventuate in another cold. Where the patient is able to exercise sufficiently to burst open these pores, whether he takes this exercise out of doors or in a warm or cold atmosphere, is not material, so that he opens them. In short, get into a dripping sweat, and then change your clothes, and cool off without contracting more cold, and you will drive it off.

Where colds are taken in their incipient stages, before they have prostrated the system, the best means of breaking them up is to drink copiously of water, warm or cold, or of warm lemonade, or of currant jelly and warm water, and then work right hard, almost violently, meanwhile pouring down one or another of these drinks by the glass. Do not overdo so as completely to exhaust, but so as to secure profuse perspiration. This, together with the water, which, if taken in quantities, MUST have some exit, will reopen these closed pores and destroy the disease. Females who can wash in a warm room, over the steam of hot water, will find this an infallible receipt for colds. Warm herb teas will fill the place of water, yet are no better in their effects.

Soaking the feet in hot water, and then toasting them on retiring, meanwhile drinking copiously as above directed, and then covering up extra warm, or even the extra drinking and covering alone will answer the same purpose; yet care must be taken to keep the extra clothes on so as not to contract a new cold—the principle evil attendant on this simple and effectual cure. How many of us while young cured our colds thus? But I recommend the daytime. Eat little or no breakfast, but drink copiously of cold water for

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\* I am for *cold* bathing, either by hand, sponge, or immersion; and all may use it, in my opinion, to advantage if they will begin by degrees, taking a moment's plunge or so at a time for a while at first.—J. B.

an hour or two after rising, and provided you can endure it, exercise vigorously, and then return to bed, cover yourselves up warm, and sweat. Sleep if you can. On rising wash all over in warm saleratus water, or simple warm water, rub dry and briskly, and keep yourself in a gentle perspiration all day by exercise. Or eat little breakfast, and begin to drink and exercise about eleven in the forenoon, or even later, and pursue the same course, omitting dinner, and eat only a light supper, or at least a light dinner, and a very light supper, and retire early, or as soon as you have done exercise as possible, so as not to renew your cold.

The warm bath, followed by friction and exercise, is also most excellent, and will generally prove efficacious. Yet here, too, care must be taken to guard against renewed colds, not by staying in the house or muffling up, but by EXERCISE—the very best means of inducing perspiration in the world, because the most natural. The wet sheet is another excellent method, especially for those who are not able to exercise sufficiently to get up the required perspiration; yet of this, and also of the water cure, in their appropriate places. Secure copious perspiration and you break up the cold, besides unloading the system of its obstructions and poisons. Evacuating the bowels, especially by injections, will facilitate your object, yet the water drunk will be likely to effect this object. Vomiting, especially by drinking warm water, just at the lukewarm, sickening temperature, will render essential service. Hot bricks, wrapped in cloths, and laid at the feet, are good.

Glass blowers furnish an excellent illustration of our system of routing colds by inducing perspiration. Obligated to labour excessively hard, and around a furnace so excessively hot as to keep the material at a white heat, they of course sweat profusely. I have often seen all their clothes wringing wet. Yet the sides of the building are open to the wind, else they would not endure the heat an hour; and they go from their furnaces to their houses while thus perspiring, and hence often take severe colds one day which, however, they generally sweat out the next, so that these repeated colds make but short stay and do but little damage, simply because they expel them by inducing copious perspiration. This simple fact furnishes a practical illustration of the true method of curing colds of great practical value. As colds consist in closing of the pores, forcing them open by sweating is a sovereign and universal cure for those disease-breeders.

Sometimes the required perspiration is spontaneous. Children often sweat freely when asleep, awaking only to call for water. This should be considered a most favourable symptom, and the desired water should be freely administered till they wake up, when they should be washed. The washing should be followed by friction and brisk play so as to keep perspiration up. Yet care should be taken not to contract additional cold.

In fine, to break up colds START THE SWEAT, by what means it matters little, so that it is copious, protracted, and not followed by more cold.

Perspiration, besides thus unloading the system of disease, also serves to regulate the temperature of the body. The necessity of uniformity of temperature—neither too high nor too low—has already been explained, as also the means by which heat is generated. But heat at times superabounds. When the system is full of carbon, if we exercise vigorously so as to breathe freely, and thereby introduce great quantities of oxygen into the system, we of course manufacture an unduc supply, especially in warm weather, when heat does not pass off readily. Now this extra heat must be evacuated, else it will melt the fat in the system and relax and prostrate. This important evacuation of the surplus warmth is effected by perspiration as follows: All bodies absorb heat when passing from a dense medium to one that is more rare. Thus water, in passing into steam, takes up a great amount of heat, which it again gives off in returning back to water, on the well-known chemical principle that all bodies give off heat when passing from a rarer medium to a

denser. Here, again, water becomes a porter. An excess of heat aids the conversion of water into steam, which then takes up its surplus heat, carries it out of the system, and gives it off again while condensing back to water.

This explains why it is that men can remain in ovens heated hot enough to cook meat, and long enough to cook it, without destroying life. They sweat out the surplus heat, or else their own flesh would also bake.

But sometimes the system does not generate sufficient heat. This scarcity must be made up by some means, or we must die.

The following letter to the author shows some of the consequences of a spare supply of heat:—

“John Clark, a native of Connecticut, born more than a century ago, was peculiarly affected by cold weather. In the cool mornings of nearly every month in the year, his hands would become benumbed and almost entirely useless, his tongue stiffened so that he could scarcely articulate, the muscles of his face contracted and stiffened, and one or both eyes closed in a very peculiar manner. This infirmity was hereditary.—*Phrenological Journal*, 1846, p. 131.”

This was undoubtedly owing to defective lungs, and a consequent want of oxygen in the system. Or there might have been some defect in his digestion, by which a due supply of carbon was not extracted from his food. Many others are also troubled with being habitually cold, even in summer. This is the case with the author, though he is becoming less so yearly. Consumptive parents, and all predisposed to this disease, also feel cold or chilly, and have cold hands and feet, and perhaps what is called goose-flesh on the skin. How can this be remedied?

First, and primarily, by ascertaining and removing its cause, which will almost always be found in deficiency of breath, occasioned by small lungs, or confinement, or want of sufficient exercise to promote respiration. When this is the cause, the patient may easily perceive it in the fact that all additions to his breathing add to his warmth. And the remedy is plain. He must BREATHE MORE. Nor can he be comfortably warm without it. Two other means are also resorted to to secure the required temperature. One of these is fire.

That fire is in some way essential to human health and comfort, is established by the ample provision for it found in nature. What she supplies she intends man shall use. Besides being indispensable in many of the arts, as in smelting and casting metals, etc., no one will doubt that fire is useful as a means of animal warmth. When the body is perfectly healthy, vigorous exercise will probably supply all the heat required in the coldest of weather. Yet we often require to apply our minds in a sitting posture, as in writing, reading, listening to speakers, when there is not sufficient action to secure this heat, and when, therefore, fire is both comfortable and indispensable. In cases of exhaustion, sickness, infancy, etc., fire is necessary.

Still, men rely far too much on external heat, and far too little on internal. Though we require fire, yet this alone can never keep us sufficiently warm. How hot, think you, must be the atmosphere to keep the body, inside as well as out, at the temperature of 98 deg. ? Hot enough to burn the skin to a crisp. Try the experiment on a corpse. Fire is utterly insufficient to keep us duly warm. Our heat must be generated within us. The use of fire is to keep us warm by retarding the escape of internal heat, not by infusing external heat into us. Those who cannot keep themselves warm by the process already described cannot keep themselves warm at all; because in and by the very act of warming a room, you prevent the manufacture of internal heat by rarefying the air, and, when the fire is in the room heated, by burning up some of its oxygen, so that the lungs cannot carry enough to the blood to support the required internal combustion. External heat, therefore, so far from keeping us warm, often prevents our warmth. All this, besides the



smoke and noxious gases necessarily consequent on burning fuel, especially coal.

To put this matter on the reader's own experience. How many times in your lives, in weather so cold that you could not keep yourself warm indoors, when compelled to rush into the cold, have you so accelerated circulation and perspiration, as in a few minutes to be quite warm enough, though just before chilly by a hot fire? And this natural warmth is much more delightful than artificial heat. Out of doors is the place to get thoroughly warm in cold weather.

You, sedentaries, know no more about the back-woodman's table luxuries than he about your "city fixing," and the way he can beat you keeping warm in cold weather, notwithstanding your hard coal and air-tight stoves, can be known only by trying. If I were again young and my constitution unimpaired, I would remain where there was fire no more than obliged to, and would never rely on it to warm my feet or hands, but only on natural warmth. Nor would I accustom myself to mittens, except on extra occasions.

Nor can those who generally occupy warm apartments well imagine how much more brisk, lively, buoyant, intense, and happy the feelings are, and how much more clear and vigorous all the intellectual operations, while one is kept warm by exercise in a cold day, than by sitting in a hot room; nor how lax and listless, in comparison, are we rendered by artificial heat. Abundance of exercise, respiration, and good food, is the great receipt for keeping comfortable in cold weather.

The evils consequent on staying perpetually within doors in cold weather, and in hot rooms, are exposed too forcibly by our subject to require enlargement. Those who do so can obtain only a small supply of oxygen, first, because the air they breathe is so rarefied by heat that a given bulk contains but little; secondly, because the fire has burnt out much of that little; thirdly, because they have breathed what little air there is over and over again, and thus loaded it with carbonic acid gas, and because they exercise so little that they secure but little action in their lungs. Such live slowly, yet are incurring disease.

Fire also creates carbonic acid gas, which is of course inhaled into the lungs. Hence those who occupy heated rooms, instead of carrying off the surplus already in the system, even take in additional supplies, especially if the fire is made of coal, and hence the blue veins and languid feeling of those who keep themselves housed up in winter.

#### DIFFERENT KINDS OF FUEL, STOVES, ETC.

And here I protest against air-tight stoves in sitting-rooms, because they prevent a renewal of the air by circulation, and thus effectually shut out the oxygen. Still, air-tights are admissible in the kitchen, where fresh air is introduced by a frequent opening and shutting of doors. If you must be by a fire, at least have one with a draft.

Hence none of those close stoves are the things for health. They all paralyse our mental and physical energies while life lasts, and also hastens its termination. Give me the old-fashioned fire-place, or an open Franklin, or else a new kind of stove made wholly of brick, called the Russian stove, which, for warming sitting-rooms, is probably superior to any other in use, as it certainly is much less expensive in construction, and more economical in fuel. I never imagined till I used it, how much heat a little wood gives out. It also makes a remarkably even heat.

#### FIRE NECESSARY WHEN THE CIRCULATION IS WEAK.

Let not the preceding remarks be construed to mean that we had better remain cold, than warm, ourselves by fire. Heat must be had in some way. Even a slight reduction of temperature induces those colds just shown to be

so fatal, and also chills the blood, intercepts circulation, and would soon occasion death. Infinitely better have artificial heat than cold. Yet even in sickness, when the circulation is low, better provoke as much natural heat as possible by friction and clothing, and rely as little on fire as possible. Invalids, of all others, require oxygen, which artificial heat always and necessarily reduces. I pity those who are obliged to resort to fire for warmth. They may live along from hand to mouth as to health, yet can never know the real luxury of a comfortable temperature. Such should by all means practice those directions for enhancing the circulation to be given hereafter.

#### CLOTHES AND THEIR NECESSITY.

That man is constituted to wear some kind of external covering, cannot for a moment be questioned. Otherwise he would have been furnished with a heavy coating, like what grows on animals. Man is designed to inhabit the whole earth, the frozen regions of the north and south included; where, without some external protection against the extreme rigour of winter he must inevitably freeze to death. Such protection, though it does not generate heat, retards its escape, and thus aids in that indispensable process of heating the body. And by varying the quantity of clothing as the weather changes, we can greatly facilitate that uniformity of temperature so indispensable.

#### QUANTITY OF CLOTHING.

But though clothing is thus necessary, yet by far too much is now worn. The Indian, even in colder latitudes than ours, contrives to manage even in the coldest weather, with only his blanket thrown loosely around his shoulders. We need clothing, yet should rely on it only as a partial regulator of heat, not as our principal warming agent. Clothes, by retarding the escape of heat, cause us to require less food and breath. Hence those who cannot get enough to eat, should dress extra warm, while those who can should dress light. Extra clothing relaxes the skin, and prevents the generation of animal heat, and this leaves the system colder instead of warmer. If I were again young and robust, I should habituate myself to but little clothing, even in winter. I am wearingless and less every winter, thus relying for warmth more on nature and less on art. Yet I would not change too suddenly. Better too much clothing than too little. Keep warm we must; and in leaving off clothing I would augment the internal manufacture of heat by increased exercise and breathing.

As clothing is worn partly to regulate the temperature, its quantity of course requires to be greater in cold weather than warm. Yet I protest against this varying its quantity with every variation of the weather. Nature has rendered this unnecessary by a provision for enhancing the internal heat in the exact ratio of the external cold. This alone shows that we should rely on nature's provision for warmth instead of on art—should breathe and eat more as the weather becomes colder, instead of dressing so much warmer.

Yet invalids, and those whose circulation is defective, may require such variation. This habit of relying so much on clothes, however, modifies our advice. As most of us now are, they benefit, yet we should diminish its necessity by enhancing the internal heat.

#### THE CLOTHING OF CHILDREN.

Few errors are greater than the prevailing custom of wrapping babes up in blanket after blanket as a protection against cold. From the first they are literally smothered with clothing. Besides keeping the nursery quite too warm, the young stranger must have on several thicknesses of its own clothes, and then be covered up most of the time under several thicknesses of bed-clothes with only a small breathing hole left. It is just as you habituate

them, with this difference, that shutting in the animal heat thus, relaxes the skin and paves the way for those colds seen to be so injurious. Too much clothing promotes colds instead of preventing them. I would not have them cold; yet of this there is little danger. That same self-acting regulator of heat already seen to exist in adults, exists also in them. Rely on this, and do not engender disease by extra clothing. They need more clothing than adults, because animal heat is at its minimum at birth, and should never be carried out, yet they are often well-nigh ruined by being over-dressed.

After children have become three years old they generate animal heat very rapidly, if allowed to play, and therefore require but little clothing. Give them the liberty of the yard, and I'll risk their getting cold unless they have previously been nursed to death. Mothers, be assured that you are by far too tender of your children in this respect—that you almost kill them—and often quite kill them, by extra dressing. And this muffling up boys with comforts round their necks, in addition to neck wrappers, caps pulled down tight round their ears, warm mittens, warm over-clothes, a cart-load of bed-clothes, and the like, is consummate folly. When boys are running out and in they will keep warm without all this fuss, and doubly so when they are walking. But we shall discuss the whole subject of children's dress in our proposed work on "Maternity."

#### CHANGE OF RAIMENT.

Whether we should increase and diminish our clothing according to the temperature of the weather or not, we should change it often from motives of HEALTH AND CLEANLINESS. Since perspiration brings out a great amount of corrupt and poisonous matter through the skin, most of which is absorbed by the under clothes, of course they should be changed and cleansed frequently. Nor should we sleep in the under garments worn in the day time.

Children's under clothes, in particular, should be changed every day or two, and also every night, because they perspire more copiously even than adults.

#### THE QUANTITY OF CLOTHING, FLANNELS, SILKS.

That, considering the weak state of the skin generally in civic life, flannel under garments for cold weather may be advisable, is admitted; yet, in cases where the circulation is vigorous, its utility is doubtful. My practice is to postpone putting it on later and later every fall, and to discontinue its use earlier and earlier every spring. It confines the corrupt matter transmitted through the skin too closely around the body. Hence it should be changed and washed often, as well as aired at night. This wearing flannels a week or ten days without washing is pernicious.

Silk is highly extolled for under garments. I have worn it with comfort, if not profit. Yet, like flannel, it retains the perspiration and effluvia of the body. My own convictions favour cotton as furnishing the best material for under and summer clothing.

#### HEAD AND NECK ATTIRE.

That nature designed us to wear something on the head will not be doubted, but has she not already dressed it in a warm and beautiful garment of hair, one abundantly sufficient to secure the required warmth, at the same time allowing perspiration to escape freely? This, hats and caps as commonly made, prevent, and are, therefore, objectionable. Be it remembered, that whatever oppresses the head, thereby blunts thought and stifles feeling.

The mode of dressing the neck is scarcely less important. A tight neck dress is highly injurious, because it retards the flow of blood to and from the head. This perpetual strangulation I cannot endure. Anything but being

choked. At home I wear no stock or neckerchief, and should never do so abroad, if I could always explain my motives for the omission. Tight neck dresses also cause bronchial affections.

This confinement of the neck also intercepts the escape of the perspiration and effluvia which the heat of the body causes to rise, but which any bandage around the neck edges in, and retains around the person, and in the clothes, only to vitiate and disease. The Byronic fashion of dressing the neck is preferable to all others.

That a close neck dress is not required on the score of warmth, is evinced by the open mode of dressing the female neck. If woman can keep warm without choking up her neck with tight bandages, surely robust man can.

#### THE HANDS AND ARMS.

The hands should be kept warm, yet this can be done without mittens—and in general better without than with. Rely on natural heat more, and on artificial less. Put then on late in the fall, and only in extreme cases. Wearing gloves in summer is perfectly ridiculous. To encase your hands in gloves is to hide their beauty. I should feel ashamed to acknowledge, practically, that mine were too homely to be seen.

UNCOVERED ARMS, by allowing the free escape of waste matter, greatly promotes comfort and health. The free access of the air to the skin is pre-eminently beneficial, and the more surface thus exposed, compatible with warmth and decency, the better.

#### WARM FEET.

Cold or wet feet are prolific of colds and their consequences, while warm feet generally protect the system from disease. The old saw—"Keep the head cool and feet warm," is full of practical wisdom. In fact, cold feet induce headache by a partial congestion of the brain, nor is there a greater cure for headache than rubbing, washing, or toasting the feet, because it draws off that extra rush of blood to the head which caused it to ache.

To secure due warmth in the feet, WASH AND RUB THEM OFTEN. Few things are more promotive of health than the daily washing of the feet. It will add considerably to the health of every reader who will practice it, as well as increase his serenity of mind. Jefferson attributed his uniform health, even in advanced life, more to this one practice than to any other. Nor does running in the water in the summer do children the damage apprehended. Let every child be brought up to wash the feet, every night on retiring, in cold water. Nothing is more erroneous or foolish than the prevailing idea that cold water applied to the feet is injurious. Nor are wet feet, if WARM, the precursors of the winding sheet, though cold wet feet often breed disease. Keep up the circulation in them, and they may be wet half the time without injury! The great evil is not in *wet* but *COLD* feet.

The proper dressing of the feet, so as to secure the required warmth, becomes a matter of great importance. Reliance for keeping them warm should not be placed on shoes, stockings, and fires. The principles respecting fires and dress, already applied to the body, apply equally to the feet. Almost exclusive reliance should be placed on vigorous CIRCULATION, as secured by *exercise* and *washing*, not on stockings, boots, and over-shoes. In fact, the latter generally IMPAIR circulation, and thus induces coldness of the feet instead of warmth. In general, the lighter dressed the warmer, provided they have sufficient *exercise*.

Heating the feet with brick, stones, and the like, is also injurious. Warm them by walking, stamping and the like. And in riding, by far the best plan of warming them, is get out and walk or run.

GOING BAREFOOT in summer is not injurious to children. They love it

dearly, and this is nature's warrant for its utility. The soles of their feet are furnished from birth with a thick epidermis, which going barefoot renders thicker and tougher. This abundantly protects them from injury. Nor will going barefoot give them cold, but it will prevent sickness by promoting health and circulation in the feet.

#### SLEEP.

All that lives must sleep. Even the entire vegetable kingdom sleeps in winter, to awake up with renewed vigour on the opening of spring. All animal life, from snail to man, must rest or die. Nature compels it, nor can any human will or effort forgo it. Nor can we be better employed than when thus renewing our vital energies.

Deficiency of sleep is scarcely less injurious than deficiency of food. Yet we can over-sleep as well as over-eat, or over-exercise ourselves. Physiologists differ as to the length of time required, and well they may, because different persons require different lengths, according to circumstances. And the same person requires more at one time than another.

The time spent in sleep furnishes no criterion of its amount, because some sleep more in an hour than others in a night. Some may dose away half their time, yet be starved for rest, while others sleep abundantly in four or five hours—all depending on its soundness and previous fatigue.

While the constitution remains unimpaired, the sleep is sound and refreshing, and five or six hours in the twenty-four may perhaps be sufficient; but broken constitutions require eight or even more. Over-eating also requires additional sleep, as does also excessive toil of any kind, of which all are experimental witnesses. All disorders of the stomach and nervous system also require additional time for sleep. Exceedingly active persons—those who, when awake, are wide awake, also require to sleep longer than those who are half asleep when awake. Convalescents also require to sleep more than usual. Each must, therefore, judge for himself, and while all should sleep enough, none should sleep too much. Over-sleeping is as injurious as gluttony. How stupid, palsied, and good-for-nothing it renders people. Our own appetite for sleep, as for food, unperverted, furnishes us with an infallible guide. Nature will rouse us to consciousness when our sleep is out. And when thus aroused, all should spring at once from their couch. To hug the pillow, half asleep and half awake, is most pernicious, and like over-eating, only makes us crave the more, besides too often inducing, or at least facilitating, impure feelings, which too often result in vice. Would that I could only impress, especially on youth, the importance of rising immediately on waking.

#### SEASON.

That nature clearly indicates night as best time for sleep, is too apparent to require proof. It may be doubtful how long we should sleep, but what time we *do* sleep, should be in the night, except in cases to be mentioned. Sitting up half the night and sleeping half the next day, reverses the ordinances of nature, and must therefore prove injurious. Extraordinaries excepted, all should rise with the break of day, and especially children, who should retire soon after the hens do. Better sleep in the mornings than too little, yet either retire the earlier, so as to have your sleep out at least before sun-rise, or else take a short nap in the middle of the day. Those whose previously formed habits prevent their going to sleep early, even when they go to bed, should break up such habits. "Early to bed and early to rise," is the motto for health. The customs of society may sometimes require morning sleep, by preventing a due degree of night sleep. Thus the author, after lecturing, often finds his nerves so excited, that though he retires, the blood courses through his throbbing brain so as utterly to defy sleep, and he may as well write while this fever lasts, to compensate for which he is obliged

to sleep in the mornings, which, however he never does at home. The fact is that lectures and public meetings should be held by daytime instead of in the evenings.

But some cannot obtain sleep enough. This is partially true of the author, especially after lecturing and writing. Any preternatural excitement of the brain and nervous system prevents a due supply of this commodity. So do mental troubles, over exertion, and in some cases disordered stomachs. In all such cases sleep should be promoted. This can be done by previous PREPARATION. As, to enjoy our meals, we must first become hungry, so we should sharpen up our sleeping appetite, and also prepare ourselves, mentally and physically, for this delightful repast and grand restorer of exhausted energy. This can be facilitated by a due degree of action, especially muscular. Overdoing causes wakefulness, yet a due quantity of muscular exercise every day of our lives is eminently promotive of refreshing sleep at night; and those who would enjoy sleep must exercise, especially those whose wakefulness is caused by nervous or cerebral excitability. Become comfortably tired, and you are prepared for refreshing sleep.

Such should also avoid excitement and seek quiet in the evening before retiring. In short, reduce that action of the brain which keeps you awake, directious for doing which will be given hereafter.

The wakeful should especially go to bed soon after becoming drowsy, else they become extra wakeful, and remain so perhaps much of the night. This direction is particularly important. Yet going to bed only to lie awake, or before we are prepared for sleep, is also bad. We should try to go to sleep as soon as possible after going to bed.

Amusements, if of a pleasing, soothing kind, also promote sleep, especially domestic amusement, as playing with children, conversing with friends, and the like; but exhilarating, exciting amusements, intercept sleep. A quiet, happy frame of mind, is especially promotive of sleep, while unpleasant feelings, especially anger, retard it. Hence, to induce children to have a good play or frolic just before going to bed is an excellent practice.

Religious contemplations and devotional exercises are especially promotive of sleep. They diffuse over the soul a delightful quiet, a heavenly calmness, which invite sleep. A physician once directed a wakeful patient to THINK ON GOD when he wished to go to sleep but could not, and the patient said that for forty years, whenever wakefulness returned, following this prescription soon lulled him to sleep. Family devotiou induces a similar preparatiou.

Moderate fasting promotes sleep, while a full stomach retards it. The English think differently, and eat on retiring; but if a full stomach facilitated sleep we should become hungry when we became sleepy, whereas sleep diminishes appetite. In fact, we eat the less when we sleep abundantly, and the more the less we sleep.

Invalids, and the sick in particular, require to sleep much. As a restorative measure medicines bear no comparison with sleep. Hence, wakning the sick to give drugs is consummate folly. Nor is there a better sign of a favourable turn of disease than a disposition to sleep, provided it be natural. A state of mere stupidity is a bad sign, but this differs materially from natural sleep.

Invalids and the wakeful should also guard assiduously against being disturbed when once asleep till fully rested, on pain of subsequent wakefulness. Many weakly mothers have ruined their health and lost their lives by crying children. That they can so train children as to sleep soundly all night, from infancy to maturity, will be fully shown in the author's work on "Maternity."

A day nap is also most excellent for invalids, children, and all who do not or cannot obtain sleep enough during the night. A mere doze is to such most refreshing. If you cannot get to sleep the first few times keep trying till you can, and you will soon form the habit; and even when you do not lose yourself the rest will be beneficial.

The best posture for promoting sleep is doubtless lying on the back, because it facilitates respiration. Lying wholly on either side often causes the internal organs and even the brain to lag and remain more on that side, which is evidently injurious. Habituate children to sleep on the back, and if on either side, also on both.

A slight elevation of the head may be beneficial.

#### BEDS AND BEDDING.

Mattresses are preferable to feathers, because not so hard so as to give pain nor so soft as to enervate. Nor are straw beds any too hard. Feather beds are decidedly unwholesome, especially in summer. Being animal matter, they are subject to decay, and hence their unpleasant odour, which of course vitiates the air and breeds disease. They are also relaxing and weakening. Sunk into a pile of feathers, perspiration cannot properly escape, sleep is disturbed and does not refresh, and we awake with a headache, feel prostrate and unfitted for pleasure or business. Not so with mattresses.

The habit of sleeping under a stack of bed clothes is also equally as pernicious as a superabundance of clothes by day. They prevent sleep, and retain about the body all the corrupt effluvia it throws off, and which should be allowed to escape. None should sleep cold, yet all should habituate themselves to as few bed clothes as possible to keep comfortable; and during the day these clothes should be thrown upon the backs of chairs and thoroughly aired in a draft till towards evening.

The practice of covering up the head under the bed clothes is most pernicious. Almost as well not breathe at all as to breathe over and over again the same fœtid air.

#### THE GLANDULAR SYSTEM, AND ABSORBENTS.

As important a portion of the human structure as this deserves a passing notice, yet we shall not dwell on it. Of the general functions of some of the larger glands, as the salivary glands, the liver, the pancreas, mesentery, etc., mention has already been made. Their respective functions are indispensable to life, as is the action of the kidneys in secreting from the arterial blood that urea manufactured in the process of life.

These glands are formed somewhat like the lungs, with two sets of capillary vessels, the one for the ramification of blood, and the other for secreting their respective materials.

The various secretions made in these glandular ramifications are emptied into ducts, and these into one another till all are emptied into one common reservoir, and carried to their place of destination.

Though all parts of the system reciprocate their several conditions with all the others, yet this reciprocity seems to be more intimate between the glandular functions and the cerebral than between any of the others. Every change and phase of mental action produces a corresponding change in the glandular action. Thus, thinking of food makes the mouth water, that is, excites a copious secretion and discharge of the salivary glands; sadness retards, and pleasurable emotions augment the action of the liver, the former accelerating and the latter preventing digestion. Grief provokes a copious secretion of the lachrymal glands in the form of tears, and sudden joy sometimes has a similar effect, and thus of the others. But the most conspicuous illustration of this principle will be found mentioned in "Love and Parentage," and applies to the secretion employed as the messenger of life.

The great practical lesson taught by this reciprocity is the importance of keeping the mind in that calm and happy frame which promotes glandular secretion, and thereby health.

The absorbents also deserve notice in this connection. They are stationed throughout the entire system for the double purpose of taking up foreign matter, such as the matter of biles and other tumours which do not come to a head, and also any deposits of fat which may be found in the system when wanted by it. The fat of the body is only a deposit of its surplus carbon, stored up against a time of want. When imperfect digestion or a deficiency of food renders the supply of carbon unequal to the demand, these absorbents take up this fat and empty it into the chyle-duct and so into the circulation, and hence the falling away of the sick or starving. When this fat or store of carbon is exhausted by protracted hunger or stomachic disease these absorbents take up even muscle and cellular tissue and empty them also into the circulation, and hence the extreme emaciation of the starving, of consumptives, dyspeptics, and the sick generally. This provision against any deficiency of nutrition is inimitably beautiful and useful.

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## CHAPTER IV.

### LOCOMOTION—ITS APPARATUS AND NECESSITY.

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#### THE OSSEOUS SYSTEM.

##### THE EXPENDITURE OF THE VITALITY.

Thus far we have seen by what instrumentalities vitality is supplied. Yet, all this ingenious arrangement for its supply would have been useless but for some means of effecting its expenditure. This vitality may be considered the raw material of life—the stock-in-trade of the mechanic. It next requires to be WORKED UP, into the various ends of life, or it will avail nothing. For this expenditure nature has made provisions quite as ample as for its supply. This expenditure consists in two things, MOTION and MENTALITY, sensation included. To subservise these two ends, the entire human structure, the inimitably beautiful vital apparatus included, was created. Without motion, man must always have remained in one place, like the oyster, and been incapable of speaking, eating, or doing a single thing; and without mind or sensation he would have been incapable of experiencing one single emotion of pleasure or pain. But behold and admire the number and variety of functions effected through their instrumentality! In fact, they embody the whole of life—all the ends of man's being.

To effect these great ends, organs adapted thereto are necessary. These organs consist of the osseous, muscular, nervous, and cerebral systems, to the discussion of which our subject thus brings us.

##### THE OSSEOUS SYSTEM—ITS NECESSITY AND STRUCTURE.

As but for the timbers of buildings nothing would support their superstructure, so, but for some kindred framework within the body, both to keep the various organs in place, and to form, as it were, timbers or fulcrums for support, and for the attachment of the muscles, motion would be impossible. With such a provision nature has furnished the human body in the form of BONES. With their general appearance all are familiar. They are composed principally of two substances, animal and earthy, the former imparting life, and the latter firmness. In youth the animal predominates, and hence the greater flexibility of young bones. This, however, prevents fractures, aids to



break the falls of children, and facilitates growth. But as age advances, the earthy materials of bones predominate over the animal, because the muscles, having become stronger, require augmented stiffness to prevent their bending, and because experience enables us to guard against falls. As the earthy predominates, the bones become more and more brittle—and hence the great fragility of the bones of the aged, till, in a certain disease which consumes their animal matter, they break from slight strains; whereas, in another disease which consumes their earthy matter, but leaves their gelatinous substance, they can be bent any way, and even tied up in knots without breaking; yet in this case motion is impossible. These bones are penetrated with blood-vessels and nerves, the former to supply growth and vitality, and the latter to impart sensation. The bones number about two hundred and fifty-two. They are united by joints, and held together by powerful ligaments. At the joints the bones enlarge, though the weight of their ends is not greater than their middle portions. This enlargement, together with an elastic plating between them, serves to deaden the blows of a fall or a jump upon the feet, so that, before it reaches the brain, it is comparatively obviated, and that delicate structure saved from contusion. Throw two hundred pounds down eight feet—a distance we often jump—and see how hard it strikes. Not so with man.

A membrane is stationed at each joint to secrete an oleaginous substance more slippery than oil, to lubricate these joints, and preserve their wearing out by the powerful and almost perpetual friction occasioned by muscular contraction and the weight of the body, and to facilitate the ease of motion.

Besides those powerful cords which tie the bones together at their joints, so as to resist their tendency, when the muscles contract powerfully upon them, to slip past each other, as in sprains and dislocations, they are fitted into one another in the form of hinges—a ridge in one exactly fitting to a corresponding hollow in the other—and of ball and socket joints, as in those of the hips and shoulders, where a ball in one fits exactly in a socket in the other, so as to allow motion in all directions.

These bones are not scattered about at random, but similarly formed bones are always found in similar positions, exactly fitted to subserve their respective ends. Thus arranged, they constitute the human skeleton or framework of the body.

This beautiful structure of bones and joints, every way so perfectly adapted to serve as a foundation for the motive apparatus, would be as inert as so many sticks but for something like ropes and pulleys to put them in motion. These ropes and pulleys are supplied. They are called muscles. They lie beneath the skin, upon and around the bones, and constitute the red meat of animals and man. Every human being is endowed with some five hundred and twenty-seven muscles, of various shapes and sizes, exactly adapted to produce those innumerable and powerful motions of which man is capable. They overlap and underlay, and are interwoven with each other, in all conceivable ways. They are also enclosed in a smooth membrane, which allows them to slide upon each other without friction. Without this, their powerful contraction would soon wear them into shreds. The muscles are composed of innumerable strings or fibres, bound together in one common bundle, the contracting or shortening of which results in motion. Indeed, this contractile power constitutes their sole function, and is effected by an expenditure of vital force. And as one end of these several muscles is attached to one bone and the other to another across the joint, this contraction moves one or the other of these bones, and of course produces motion.

These muscles are largest in the middle—that part which contracts. They taper off into tendons—those strong cords seen in the wrists, back of the hands, insteps, and above the heels. Thus many muscles may be attached to a single bone. The strength of these cords is tested by hanging slaughter-

animals up on sticks thrust through these tendons, and also by the tenacity with which they adhere to the bones, as well as by our ability to stand on one foot, and toss the body about by one of these tendons—that at the heel. Their attachment is formed on ridges in the bones, or on their heads, near joints.

Single motions are generally effected by the contraction of individual muscles. But most of our motions are compounds, effected by many bones, joints, and muscles acting in concert. Thus, the simple lifting of the hand to the head is effected by the combined motions of the wrist, elbow, and shoulder. And in walking—apparently so easy a motion—nearly all the bones and muscles of the body are brought into requisition; so much so, that even the tying of the hands greatly impedes it.

Many of the motions of the body, as climbing, leaping, lifting, &c., require the CONCERTED as well as powerful action of almost every muscle of the body. This concert is probably effected by means of a cerebral organ of motion located in the cerebellum. Indeed, all the internal organs, heart, lungs, liver, &c., undoubtedly have each their cerebral organs, and work by them, just as the stomach operates by means of Alimentiveness.

#### THE POWER OF THE MUSCULAR SYSTEM.

The number, variety, and power of the motions capable of being produced by these muscles are indeed most wonderful. They enable us to climb the lofty tree, and even the smooth pole of liberty—to mount the towering mast, and not only support ourselves in the rigging of the ship, but to put forth great muscular exertion while the ship is tossing and rolling, and that in the midst of the hurricane. Standing upon our feet, we can toss our bodies—weighing from one hundred to two hundred pounds—several feet upwards and forwards, and in all directions, for many hours in succession, as in dancing and the circus. Or we can transport it fifty or sixty miles between sun and sun, and even carry many pounds weight upon our backs. Or we can labour briskly every day for scores of years. Or we can lift and carry several times our own weight. Or we can accomplish a multiplicity of powerful and protracted bodily exertions, and do a variety and amount of things almost without end.

“The muscular power of the human body is indeed wonderful. A Turkish porter will trot at a rapid pace, carrying a weight of six hundred pounds. Milo, a celebrated athlete from Crotonia, accustomed himself to carry the greatest weights, and by degrees became a mouster in strength. It is said that he carried on his shoulder an ox four years old, weighing upwards of one thousand pounds, for about forty yards. He was seven times crowned at the Pythian games, and six at the Olympian. He prescuted himself the seventh time, but no one had the courage to enter the lists against him. He was one of the disciples of Pythagoras, and to his uncommon strength the learned preceptor and his pupils owed their lives. The pillar which supported the roof of the school suddenly gave way, but Milo supported the whole weight of the building, and gave the philosopher time to escape. In his old age Milo attempted to pull up a tree by its roots, and break it. He partly succeeded, but his strength being gradually exhausted, the tree, when cleft, reunited, and left his left hand pinched in the body of it. He was then alone, and, being unable to disengage himself, died in that position.

“Haller mentioned that he saw a man whose finger being caught in a chain at the bottom of a mine, by keeping it forcibly bent, supported by that means the weight of his whole body, one hundred and fifty pounds, until he was drawn up to the surface, a height of six hundred feet.

“Augustus XI., King of Poland, could roll up a silver plate like a sheet of paper, and twist the strongest horse-shoe asunder.

“The most prodigious power of muscle is exhibited by fish. The whale moves with a velocity through the dense medium of water, that would carry him, if continued at the same rate, round the world in less than a fortnight; and a sword fish has been known to strike his weapon quite through the oak plank of a ship.”—*Western Literary Messenger*.

The following, bearing on this point, is taken from a Scotch paper, and is headed, “The last of the Stuarts.” “It is, withal, an excellent hereditary fact, and shows that the Stuart family were most remarkable for great physical strength, which harmonises with the principle that all distinguished men are both from strong-constitutioned and long-lived families; he being now one hundred and fifteen years old.—“Hundreds of persons can bear testimony to his amazing strength, from which circumstance he got the bye-name of *Jemmy Strength*. Among other feats he could carry a twenty-four pounder cannon and has been known to lift a cart-load of hay, weighing a ton and a half, upon his back. Many a time has he taken up a jackass, and walked through the toll-bar, carrying it on his shoulders. It will be long before we can look upon his like again, or hear his stories of 1745, and his glowing descriptions of the young Chevalier.”

Jonathan Fowler, of Guildford, Conn., walked out, knee deep, through the mud, oyster-shells, and filth of a sea-shore at low tide, to a shark, left by the retiring tide in a pool, captured it while yet alive, weakened of course, by having but a scanty supply of water, shouldered it, and brought it alive on his back to the shore, which weighed five hundred pounds!—quite a load, considering that it was not the most portable of articles nor the best of roads. The feats of the Ravel family, Bedouin Arabs, and circus performers, are also in point.

Nor are these and kindred exhibitions of strength by any means the ultimatum of man's muscular capability. A due degree of training would enable him to accomplish much more. We are but Lilliputians in comparison with what mankind will yet become. Most exalted are my ideas of man's muscular powers. I believe he might vie with the lion himself as to absolute strength, and carry heavier burdens than horses. Indeed, Turkish porters now transport six and eight hundred pounds at a time on their backs, and the Belgian giant could stand up under two tons. The Chinese have no horses, and carry their teas and silks between two men, hundreds of miles on their backs. If man can effect all he now does without either muscular discipline or the application of hereditary descent, how much more with? The human race is yet in its nonage in everything, muscular capability included. We little realize the extent to which this capability can be carried IN OUR OWN SELVES, if properly disciplined.

This brings us to consider

#### THE IMPORTANCE OF EXERCISE.

Our motive apparatus, so perfect, so powerful, was created to be USED. Almost innumerable arrangements in nature *compel* such exercise. Thus man is obliged to exercise his muscles in tilling the soil, in order to procure food. He is obliged to exercise them in changing his position and moving from place to place; in making and working machinery, using tools, building, printing, making that vast variety and quantity of articles of clothing, furniture, ornament, and all the innumerable things used by mankind, and even in reading, writing, and eating, walking, talking, looking, breathing, etc.

We have already seen the importance of digestion, circulation, respiration, perspiration, and sleep, all of which exercise promotes. Who has not seen his veins become prominent and hardened during vigorous exercise, on account of the increased passage of blood through them; whereas this swelling appearance of the veins is never found in the indolent, except in fevers. Who does not know that a smart lift, or a little brisk work, or run, or vigorous

exercise of any kind, increases the frequency and power of the pulse, as well as the rapidity and volume of the inspirations? It equally accelerates perspiration. Who has not seen the sweat run down in streams from all parts of the body during hard labour? And who does not know how much more heartily we eat, and how much more sweetly and soundly we sleep with labour? Nor is there an important function of our nature which muscular exercise does not promote, and inaction impede. By enhancing respiration, it augments the amount of oxygen and carbon consumed, as well as of fibrine, gluten, and caseine consumed; indeed, of all the materials derived from food and breath, and also greatly increases the pulsation of all noxious matter from the system in the form of phlegm, perspiration, and respiration. Besides hurrying the circulation by increasing the introduction of oxygen, it still further increases the flow of blood by urging it along through the veins; for the contraction of the muscles upon the veins urges their contents forward towards the heart. Labour also quickens the action of the bowels and of the digestive process generally. These functions, constituting no small portion of life itself, labour enhances, and thus augments life and all its pleasures and powers. In short, muscular action promotes every function and power, mental and physical, of our entire nature, and is indispensable to all. He who does not work can therefore enjoy only a lower degree of life and its pleasures, muscular inaction deteriorating, discharging, and vitiating the entire man and woman.

Nature still farther recommends muscular action by the

#### PLEASURES OF EXERCISE AND LABOUR.

Confine yourselves, or even sit or lie, in one position all day, and you will find such inaction to be exceedingly painful. See how animals, on breaking away from close confinement, run and skip, and hop and frisk, as though they did not know how to contain themselves. How many times, after having remained inactive for some time, on going out, have you been filled with an amount of pleasure in action hardly to be described. Nor is it till after our muscles have been drilled long and severely, and even become enfeebled, if not diseased, by inaction, that we can keep still without pain. Idleness is unnatural. Action is natural and pleasurable in its very nature. See how much real pleasure children take in playing and running—so much that they race from morning to night, and cannot be kept still by any means whatever. How much pleasure a smart walk, or ride, or dance affords! Nor do the sedentary realise how much pleasure is to be taken in MANUAL LABOUR. Indeed, those who do not work or take vigorous exercise in some way, can experience but little pleasure in life; for they can neither eat, nor sleep, nor breathe, nor think, nor feel with that real RELISH so essential to enjoyment. Nor need the labourer envy the rich their ease or their dainties; for he has “meat to eat which they know not of,” luxuries of which they can never partake, till they create a relish for them by labouring. For one, I would as soon forego the pleasure of appetite or rest as of manual labour. I say labour, because, though walking, riding, hunting, bowling, dancing, and other kinds of exercise are better than none, yet none of them compare with WORK, as a means of promoting health. No form of play, no other kind of exercise, at all compares with LABOUR, especially AGRICULTURAL labour, for expanding and strengthening the chest, developing all the organs, and thoroughly exercising every muscle and organ in the body. Better ride, or walk, or dance, or play ball, and the like, than nothing; but better work than either or all of them. To derive all the pleasure from muscular action which it is capable of imparting, we must effect some useful END. Exercise, for its own sake, is comparatively insipid; but when we are achieving some useful end, the utility and pleasures of exercise are doubled. Let me WORK. Give me an axe, or saw, or hoe, or scythe, or rake, or shovel, or some kind of tool, and place to use it, and I envy you not the pleasures of either the dance or hunt. Let me plough, and

plant, and raise food for my table, and let out and tend trees that I may enjoy their fruit, and add to the products of the earth, and thereby contribute to the aggregate of human happiness. God has told man PRACTICALLY to till the earth and keep it, and that he must eat his bread by the sweat of his brow. Nor is such toil a curse. It is a *blessing* and one of the greatest pleasures of earth. Nor is labour *ever* a curse, or other than one of nature's greatest LUXURIES, except when excessive in amount, or ill-timed. Nor can words pourtray the evils consequent on the false notion that labour is a curse. Indeed, if our world had produced all we require spontaneously, without any requisition for human labour, it would hardly have been worth living in.

If these views of the utility of labour require confirmation, they have it in the fact that most great men laboured hard in youth.

What distinguished man in this country or age, or any other, but took a great amount of exercise while young? And most of the world's geniuses were brought up to HARD WORK. Adam Clarke was noted, when at school, for his great physical strength in rolling stones. Shakespeare, while composing his immortal plays, carried brick and mortar to build places for their performance. John Wesley rode and walked a great many thousand miles, and it was this habitual exercise which enabled him to do so much good. Elihu Burritt, probably the greatest scholar of the age, was compelled by necessity to work EIGHT HOURS DAILY at the anvil in order to furnish himself with the means of prosecuting his intellectual labours; and it was this fact of his thus labouring daily, which enabled him thus to take such astonishing strides in the acquisition of knowledge. Clay was a poor boy, and actually worked for a living. Henry Bascom, the great western orator, travelled west on foot, with his axe on his shoulder. The old Roman and Grecian orators took a great amount of exercise in order to prepare themselves for public speaking, and they put in practice one fundamental principle of which we moderns, with all our boasted light and inventions, have lost sight—that of strengthening the voice by gymnastic exercises.\* Sir Walter Scott,† after confining himself to his desk for several days, till the energies of brain had become exhausted, would mount his horse, call out his dogs, and follow the chase for days in succession, till he had restored his prostrated energies, and then return to his study. When Byron entered college, fearing that his tendency to corpulency would injure his personal beauty—of which he was very proud—he took extremely severe exercise, daily, in order to reduce his system, besides leading an extremely abstemious life. Webster was a backwoodsman, born in a "log cabin," on the borders of the unbrokeu forest, and inured to hard labour.‡ And often, breaking away from public life, and shouldering his gun, he ranges the forest for days in search of game, besides taking much exercise daily. Franklin was a practical printer and a hard worker. Patrick Henry, that unrivalled star of genius and eloquence, laboured on the farm while young, and was passionately fond of music, dancing, and the chase, the latter of which he often followed for weeks together, camping out in true hunter's style.§ Need we mention the Father

\* No one can have a good voice without having a good muscular system. To improve the tone of the muscular system, is to augment the power of the voice. An additional reason why public speakers should labour.

† Madden's *Infirmities of Men of Genius*.

‡ See his speech at Saratoga Springs, 1844.

§ After his removal to Louisa, he has been known to hunt deer, frequently for several days together, carrying his provisions with him, and at night encamping in the woods. After the hunt was over, he would go from the ground to Louisa Court, clad in a coarse cloth coat, stained with all the trophies of the chase, greasy leather breeches, ornamented in the same way, leggings for boots, and a pair of saddle-bags on his arm. Thus accoutred, he would enter the Courthouse, to take up the first of its causes that chanced to be called; and if there is any scope for this peculiar talent, throw his adversary into the background, and astonish both court and jury, by the powerful effusions of his natural eloquence.—*Wirt's Life of Patrick Henry*.

of our country, its pride and pleasure. Washington, when not employed by his country, laboured assiduously upon his farm, and was actually driving his plough when he received the news of his election as President. Harrison, "the FARMER of North Bend," led a life of great physical exertion and exposure. Burns, the Scottish bard, actually composed much of his poetry when at work on a farm. President Dwight, the great theologian and scholar, attributed much of his mental vigour to physical labour in his garden. John Quincy Adams, one of the most learned men of the age, says he finds much daily exercise indispensable.

Both while in college and during my professional visits to our principle colleges since my graduation, I have observed as a uniform fact that those students who have been brought up without having laboured never take a high intellectual stand except in parrot-like scholarship. They always show a want of mental vigour, and of the power of close, hard thinking. After they enter upon the business of life their case is still worse. For them to rise to eminence is impossible. O, I thank God and my father that I was obliged to WORK hard and constantly on a farm till sixteen years of age, when I began to prepare for college. Leaving home with only four dollars in the world, with my all upon my back, I travelled four hundred miles, WORKED my way to college and through college, and instead of earning my money by teaching school, supported myself by sawing, splitting, and carrying up the wood of my fellow-students THREE AND FOUR FLIGHTS OF STAIRS, spending every hour in this way except study hours, and often portions of the night. My fellow-students laughed at me then, but now the scales are turned. I thought it a hard row to hoe, but a rich harvest has it yielded me; and you, reader, owe to this same cause no small portion of whatever delight or benefit my lectures, writings, and examinations may afford you. Even these very pages are penned after a delightful feast of work; and one of the means by which I am enabled to write as much as I do is the interspersion of composition with labour. I rise in the morning before the hens leave their resting places, and engage briskly in some sort of labour, usually agricultural, till I have worked up the circulation to a high pitch, and sent the blood rushing round the system, in which manual repast I take more pleasure than even in my subsequent breakfast. I then go to my desk to put on paper the ideas which this bodily exercise pours in upon my mind. Merely as a means of promoting authorship alone, no motive would induce me to give up MANUAL LABOUR,\* nor has probably anything aided my authorship so much as the purchase of a small plot of ground on which to work. Nor has my health ever sustained so much injury from exposure, or excessive professional application, or any other cause, as from that deficiency of labour which some twenty years' study and close professional application have partially prevented my taking. Nor has anything done more to restore the health when impaired than a return to work. Do not blame this personal allusion, but profit by the lesson it teaches. Reader. be your occupation what it may, pleasure or business, mental discipline or professional attainments, take this advice—WORK HARD AND DAILY FROM TWO TO SIX HOURS. You will thus accomplish much by study, dispatch more business, and perform and enjoy more in whatever you engage, ten to once, than by perpetual application. As the bow always bent loses its elasticity, so continued application either exhausts or disorders the brain, and impedes mental energy and discipline, which daily labour will wonderfully promote. Ye who aspire after renown, WORK. Ye who would do good, WORK. Ye who would fulfil man's great terrestrial destiny of being HAPPY, LABOUR DAILY. And ye who are too proud or too lazy to work, be content to suffer. Suffering will be good enough for you, because you violate a cardinal law of your being.

\* Some have expressed surprise at the amount of mental exertion put forth by the author. Whether it is remarkable or not, its secret is in exercise and fasting.

In view of these two fundamental laws of our being—the great demand of nature for muscular action, and its subserviency to all the great ends of life, what shall we say of those who are above work? He who thinks himself too good to work is in reality TOO BAD. No man or woman can ever be above labour without being above his nature and his God. That human being is no man, no woman, only some paltry thing who is too proud to engage in manual labour. “To till the earth and to keep it” is a honour, not a disgrace. It is to become “co-workers with God.” And he or she who is too proud to labour ought, in all consistency, to be too proud to breathe and eat, because labour is quite as much a constitutional function and demand of nature as breathing. Ashamed to be seen at work! As well be ashamed to look or talk! Away with this dogma that labour degrades. It elevates and ennobles. Its influence upon the mind is most beneficial. It begets a resolution and energy of character, which infuses into it all our feelings and conduct an indispensable element of success. Labour requires a perpetual grappling with difficulties and overcoming obstacles, which inspires and cultivates a firmness and determination imparted by nothing else. Hence the youth brought up to do no work while young fails to cope with difficulties. He yields to them through life, and of course accomplishes little. This explains why rich youths make such poor scholars and shiftless ninnies. I had rather my boy should be a street scavenger and my girls kitchen drudges than brought up not to labour at all, for no kind or amount of work is as bad as idleness or no labour. Not that I advocate *excessive* toil, but only some sort of work. Play is good for children, but it is not enough. They must learn, by toiling through those opposing obstacles, the removal of which constitutes labour, to grapple with all kinds of difficulties with determined resolution. The greatest curse now impending over our land is this anti-working fashion. Parents seem to vie with each other who shall support their children at the greatest remove from doing anything; and one of the greatest of the evils of that monster evil—slavery—is the idea it fosters, that labour is the business of slaves, and is degrading to master and son. That wrong inflicted on the slave, great as it is, is trifling compared with the depravity and suffering which this anti-working tendency does so much to rivet upon the white population.

All anti-workers have their reward. Produce me the man brought up without work who did not turn out to be both inefficient and vicious. This explains the prevalence of vice among the rich and at the south. If I had the wealth of Astor my children should work. Not that I would force them to it, for this might make them hate it; but I would persuade them to it, and enamour them of it, so that they should labour from choice.

And those dear, delicate, fashionable city ladies, generally as homely as hedge fences, simply because they do not work, and of course become sickly, and therefore “ugly looking,” so extra exquisite that they must never soil their soft hands by doing the least thing about the house—too nice, and delicate, and refined, and genteel, and senseless to be so vulgar—may possibly take a fashionable promenade once in a while, and an occasional “airing” in the easiest riding carriage that can be made. So very genteel they must ride to church, though only two or three streets off! Consummate simpletons, don’t you wish you had a patent machine, by which your servants could chew your food and pump breath into you without any effort of your own, so as to place you a still greater remove from labour? And your extra delicate and helpless children—don’t you wish they could lie down and lie there all their lives, and save the trouble of even eating, by letting pap drop into their open mouths, and run down their throats of itself?

And poor but proud pretenders to gentility, who have scarcely enough to eat, yet would fain make a genteel appearance—starving the kitchen to feed the parlour—if accidentally caught in kitchen habiliments, must blush, and apologise, and lie outright, by pretending that their servant has just left, and

they had to prepare dinner. Out upon your proud nothingness ! Obligated to work, yet lie to hide it ! This anti-working pride is contemptible in the rich, but in you it is intolerable. Beg pardon for obeying the laws of your being, ha ? What greater sign of your littleness ? Go away, ye toadstool grandees, into merited insignificance and infamy. Come, ye labourers, and inherit the blessings prepared for you. I do not wish such perverters of their natures had no muscles ; but a short paralysis of them, so as to make them sensible of their value, would be good enough for them. Indeed, the partial paralysis of their muscles always follows their protracted inaction. Muscles, used but little, decline, till they become so weak that exertion, otherwise a source of exquisite delight, becomes irksome, and fatigue follows trifling exercise. Such are most heartily to be pitied ; yet their punishment is just.

In view of this constitutional demand for labour, what becomes of the idea that labourers are therefore inferior ? It is blown to atoms. The honourables of the earth are its labourers. Nothing is mean which nature requires. What she has anointed and crowned, let not man despise. This idea that labour is degrading had its origin in kingly and feudal times and institutions ; in the days of lordlings and serfs. Would that it had never been brought to our republican shores. Does it not run in the teeth and face of every principle of republicanism ? Our cardinal doctrine of equality is fast erasing it, and elevating labour to that post of honour assigned to it by nature. True REPUBLICANS will never think the less of those who labour ; those who do should emigrate. Our country, our institutions, are not congenial with their practices or doctrines. The old world is enough to be consecrated to aristocracy and caste ; this is sacred to equality. Go home to England or India, ye purse-proud labour despisers ; here you are aliens. Our institutions conflict with your practices. Go where you can find congeniality, and leave us who love equality to the peaceful possession of our home. Here you are eye-sores, and stand in the light of those to whom this land, of right, belongs.

Touching the matter of caste as connected with labour, Miss Charlotte E. Beecher justly observes :—

“ Let any woman who esteems herself in the higher classes of society, put the case as her own, and imagine that her son or brother is about to marry a young lady, whose character and education are every way lovely and exceptionable, but who it appears, is a seamstress, or a nurse, or a domestic, and how few there are who will not be conscious of the opposing principle of caste. But suppose the young lady to be one who has been earning her livelihood by writing poetry and love stories, and who has lived all her days in utter idleness, and how suddenly the feelings are changed ? Now all the comfort and happiness of society depend upon having that work properly performed, which is done by nurses, seamstresses, chambermaids, and cooks ; and so long as this kind of work is held to be degrading, and those who perform it allowed to grow up ignorant and vulgar, and then are held down by the prejudices of caste, every woman will use the greatest efforts, and undergo the greatest privations, to escape from the degraded and discreditable position. And this state of society is now, by the natural course of things, bringing a just retribution to the classes who cherish it. Domesticity are forsaking the kitchen, and thronging to the workshop and manufactory, and mainly under the influence of the principles of caste ; while the family state suffers keenly from its loss. Meanwhile the daughters of wealth have their faculties and their sensibilities developed, while all the household labour, which would equally develop their physical powers, and save them from ill-health, is turned off to hired domestics or a slaving mother. The only remedy for this evil is, securing proper education for all classes, and making productive labour honourable by having all classes engaged in it.”

One probable reason that labour is despised is, that it is generally required in such excess as to be extremely burdensome. Such excess is injurious, and



should never be required. On the contrary, we should render labour as delightful, in fact, as nature has rendered it by constitution, thus seconding her evident intention. Nor should labourers be required to strike another blow after they are just comfortably tired. We should work for play, and only when labour is pleasure.

This brings up for consideration the amount of exercise required. From two to six hours of vigorous muscular exercise is the least amount compatible with first-rate health. A lower degree of health may be preserved on less exercise, but as the order of nature is to spend from four to six hours daily in the open air, so the perfection of health requires a great amount of muscular action. My own convictions are, that about four hours brisk labour a day will suffice for exercise; and this amount, well expended by all—rich and poor—would just about supply the human family with the necessaries and comforts of life. How admirable this adaptation of the amount of labour requisite for health, to that required to provide man with the necessaries and comforts of life.

In the light of this required amount of exercise, what shall we say of those merchants, clerks, lawyers, students, and the sedentary classes generally, who confine themselves to their offices, desks, and books, from morning till night, year in and year out, scarcely going out of doors, except to and from their business, and then TAKING AN OMNIBUS. If these principles of exercise were put in practice, very few city conveyances would be required or patronised. One would think that our sedentaries, starved almost to death for exercise, would embrace every opportunity to take it, walking at least to and from their business, sawing their own wood, and the like. Yet fashion requires that they hire horses to carry them, and servants to saw them their wood. Such fashions I despise.

How much exercise particular individuals should take depends on circumstances to be determined for each individual by himself, and varies with existing capabilities of endurance, which are easily determined by the feelings at the time. As unperverted appetite constitutes an infallible guide to the required quantity of food, so muscular appetite, unless rendered abnormal by inaction, will inform us how much exercise we require for the time being, and when we are taking it in excess, or at improper times. Excessive and also fitful and violent exercise, especially for the sedentary, is injurious. Such should exercise deliberately, as well as eat slowly, else exhaustion supervenes before a due degree of exercise is obtained.

Yet some are so situated, that to take sufficient exercise is exceedingly difficult. Though such should change their business, because exercise should be a paramount consideration, yet they may find in dancing a partial substitute. Not that I recommend this amusement as generally conducted, but unequivocally condemn it. But though this dancing but seldom, and then all night in hot and ill-ventilated rooms, and then going out exhausted and exposed to colds, together with most of the associations of the ball-room, are most pernicious; yet for our sedentaries to select their company, and meet at each others' houses in the afternoon or evening, always avoiding over-exertion, and retiring at nine or ten o'clock, would, if practised often, supply in part that deficiency of muscular action which causes so many to sicken and die, would restore many an invalid now perishing by inches with pure inanition, and preserve and even re-invigorate the health of many now going in a decline. Dancing MIGHT be, yet rarely is, so conducted as to prove eminently beneficial, without occasioning any evil. Dancing is founded in the nature of man, and can therefore be turned to a most excellent practical account in a great variety of ways. To sedentary young women this form of exercise is particularly recommended. Yet I would have all dance to their own music, vocal and instrumental, or both, and also in company of their parents and elders. Young people should never dance exclusively by themselves. Yet our present

purpose being to point out to the sedentary a feasible mode of taking exercise to guard against evils too often associated with it, is digressive.

Besides the sedentary those labourers who sit or stand much in one posture will find that the change and diversity of manual action secured by dancing dispel fatigue and promote health, and perhaps even render unhealthy occupations healthy. Seamstresses, goldsmiths, shoemakers, and many artisans of like occupations, who have no substitute, should dance daily as much as eat, and students will find it alike promotive to health and of mental action.

Exercise is doubly requisite for the young. See how briskly and almost incessantly lambs frisk, calves run, colts prance, kittens play, and the young of all animals exert their muscles. Nor do children form an exception to this law. What mother or nurse has not been surprised if not provoked by their incessant activity and noise from morning to night, year after year. Nor can this action possibly be prevented. Try your best to keep them still, and you will fail. To prevent their action is as impossible as to prevent their breathing, and as injurious as impossible. This restless activity is interwoven throughout their whole natures, and for the best of reasons. Their growth being rapid, their digestion, respiration, circulation, and perspiration must be proportionally active. Exercise promotes all these functions, and thereby augments growth—is indeed indispensable to it. Swing up an arm or foot so as to prevent its action, and see how it shrinks, and becomes enfeebled and diseased. Restoring its action enlarges, restores, and strengthens it. So of the system as a whole. To prevent children from being active, besides being the worst punishment that can be inflicted on them—and I pity from my inmost soul those dear sufferers who are shut up and required to keep still—prevents the development of bone, muscle, nerve, and brain, and thereby weakens every one of their powers, mental and physical, and thus becomes one of the worst evils which can be forced upon them. I rejoice in the gambollings of children, noisy though they be, because augmented health and mentality are the results. I would rather sacrifice my own temporary convenience than prevent so great a good to them. Nor will my conscience allow me to interdict what their highest good requires. Did Nature implant this perpetual restlessness to be suppressed? We fight against her requirements at our peril. Many a mother has followed her children to the graves because she broke down their constitutions by interdicting their play. You should rather promote than retard this demand of their natures. Nor need they fear, much as they will if allowed, that they will run too much. After they have been unduly kept in for a long time they may perhaps play beyond their strength at first, but not long. It is hardly possible for them to overdo. Not one in scores of thousands ever does this, but nearly every child in civilised life is more or less enfeebled and diseased by over-confinement and playing too little. Parents should make provision for their children's play as much as for their meals.

“But I cannot possibly stand their perpetual uproar,” cries a nervous mother. Then turn them out of doors. Nor keep them for cold or wet. Wash them all over every morning with cold water, and neither wet nor cold will hurt them, but only benefit them. Their racing will convert both wet and cold into instrumentalities of health. Do not be too tender of them. Confinement kills scores, where exposure kills one, and even then the exposure would be harmless but for previous confinement. There are weathers not suitable for them to be out, yet then they will want to stay in.

“And what shall we do with them then?” asks another mother. Have a playroom under cover, set apart expressly for them, filled with facilities for play. It need not be warmed; they will keep themselves warm enough by exercise. No house should be without its children's playroom any more than without a kitchen or bedroom; and such rooms should be large and airy.

Whole flocks of children of different ages should be turned out to roam over hill and dale unrestrained, the elder succouring the younger, or, rather, all under the care of teachers, who from every flower, and mineral, and production of nature met in their rambles, would teach them nature, her operations, and her laws. Whatever you do for children, or whatever you leave undone, do this : GIVE THEM THEIR PERPETUAL FILL OF EXERCISE.

In addition to play, children and youth should labour, but not to excess. One of the reasons for this has been already given. It inures them to overcoming obstacles. It also furnishes an exercise of muscle more severe than play, and trains them to habits essential to their health and happiness through life. They should also practice rendering themselves serviceable to others while young. And then there is something in labour which hardens the whole system, brain included, rendering it compact and firm, and capable of enduring what those not inured to work can never sustain. Especially should labour be rendered inviting to them, never repulsive. If possible, induce them to work from choice, not compulsion. This can be easily effected in a variety of ways. One is by giving boys a parcel of land, and letting them plant, tend, and harvest it on shares. This will also teach them the value of money by showing them how much labour it requires to earn it. Another way is by giving them tools and a workshop, and encouraging them to make sheds, wagons, kites, boxes, and what playthings they want, as well as tinkering up other things required. By a variety of kindred devices they can be induced to labour from love of it.

Yet I protest against subjecting your children to excessive and perpetual toil. As soon as they enter their teens, some parents say to them in actions, if not in words, "I have toiled hard and long for you, and now you must pay me off, principal and interest, by working still harder for me." Let such remember that children have much more than paid their own way all along from birth in the pleasure they have occasioned, and that instead of owing have actually brought their parents in debt ; or rather that both are indebted to their common Parent for the mutual pleasure they have occasioned to each other.

Children are also put to trades too early, and sometimes bound out to severe taskmasters, obliged to work hard early and late for six or seven years, and are sometimes poorly fed and lodged ; thus forced to expend in the service of their master those energies required for the development of their bodies and brains. Many mechanics make it a point of economy—though it is the worst kind of robbery—to get much of their work done by apprentices. The present apprentice system is abominable—utterly anti-republican and unjust, and often wickedly cruel, as many readers know by sad experience. Its object should be to teach the trade, not to enrich the employer. That well learned, and by this time the trouble of teaching and keeping will be amply recompensed by the labour of the apprentice, they should be allowed the full avails of their labour instead of being compelled to work hard for several years for nothing but their food and clothing, and then thrown empty upon the world at twenty-one, whereas if they had been paid half the net profits of their labour they might have had a home of their own, and capital with which to commence business, and, more than all, GOOD CONSTITUTIONS, which are often now well-nigh ruined by over-working while growing. Many children and youths, while growing rapidly, are lazy, especially those who mature late, because they require all their vitality for growth, and to give them strong constitutions ; nor is it expedient or right to compel such to labour much beyond what they themselves choose lest they should expend in labour those vital energies required for growth ; nor need you fear that they will be as lazy after they have attained their stature and maturity—after their reservoir of vitality is full and overflowing, for their very indolence will now contribute to their efficiency then by increasing their health and strengthening their

constitutions, thus giving them the greater surplus for muscular and mental labour. Yet we would have all children work a little every day after they are ten years old.

This principle applies equally to putting youths into stores and offices too young. And the smarter they are, the worse the practice. Slim, spare, flabby, I see their morning sun about to pass into an early cloud, if not set in the darkness of premature death! Without abundant exercise they cannot possibly have strong muscles or vigorous health, and without these they can never do, or enjoy, or become much. Many readers can testify that their apprenticeship broke down their constitutions, and impaired their capabilities and their enjoyments for life.

But worst of all is the practice of compelling young children and youth to work steadily in the factory, ten, twelve, or more hours daily, year after year, without vacation, or any time to play or recreate, or even enough to eat and sleep. See how pale, slim, haggard, and jaded out they all look. Give them a six month's play-day, and see how it will improve their health, and looks, and minds. I actually sigh for my country in view of the multitudes of our youth now subjected to this deteriorating practice; I mourn instead of rejoice over our mechanical prosperity. The farm is the place for children. What if factory labour is light, it is confining, and prevents muscular exercise. Even excessive labour on a farm is less injurious. After the growth is completed, and the constitution every way consolidated, factory labour is less injurious; but I would work desperately myself rather than let my children be confined in the factory.

Thus far our remarks have been applied to boys. Yet to girls such application is quite as important, if not even more so. Girls especially should never be confined either to the chair in sewing, or to the factory room, for reasons given in our work on "Maternity." Women may sit and sew or knit after they are thirty, and the more the older they grow; but no girl should learn any female trade requiring her to sit as in sewing, folding books, colouring prints, or to remain in any other fixed posture, or confine herself in the factory till after thirty, on pain of a broken constitution and shortened life. Elderly women may sew, tend machinery, and the like with comparative impunity. Nor should young growing girls be confined to lugging and tending infants.

If asked at what age children and youths may be put to school without much injury, the following anecdote contains the answer. While riding in a stage with its proprietor, who keeps several hundred horses in constant employ, all of which he buys himself, I asked him what kind of horses he preferred in making his purchases. He answered, "Balky ones." "Why?" I again inquired. "Because their fractiousness prevented their being used much till fully grown and hardened," he replied. I again inquired, "At what age horses might be put down to hard work without injury?" "Not till eight years old; they ought never to be broken earlier, and then they will wear like iron till they are thirty; you can hardly wear them out," was his answer. He would thus have one quarter of their lives spent simply in growing and maturing, as they will much more make up his lost time by extra endurance afterwards. Only a few days previous I had ridden after an extra smart horse, twenty-three years old, whose skittishness prevented her being used till about eight.

These facts, palpable to all who will open their eyes upon them, illustrate a universal law, which requires that nearly or quite one-fourth of the life of man should be spent in the formation and development of the physical powers. Youth should work only for play, till, besides having all the vitality requisite for growth, they become full and run over with surplus animal life, so that they almost ache for something to do in order to expend it. When this period arrives, be it earlier or later, just give them a chance to do something

for themselves, and they will not be lazy. They will, instead, take hold of the affairs of life "with an appetite," and accomplish wonders. Whereas, compelling them to labour too young, is the worst way of all others to make them hate work, and turn idlers as soon as they are out of their time. To put children to hard work at eight or nine, is to wear them out by the time they are thirty or forty; but if you would have them live to be a hundred, give them the reins till they are twenty or upwards, and allow them to be boys and girls, instead of making them young ladies and gentlemen. But we shall touch a kindred point, under *Approbateness*, in Vol. II.

## EARLY SCHOOLING.

The injuries consequent on the vitiated air of school-rooms, has already been pointed out. Those consequent on confinement and inaction are scarcely less, and often greater. The demand for vigorous and almost constant exercise in children is imperious, and its suppression fatal. Apply your finger to their pulse. Mark that rush, rush, rush of blood, simply to supply the hand. This blood is freighted with the materials for growth, and must be much more vigorous in children than adults, because the former grow as well as live. Respiration must also keep pace with circulation, and exercise with both; so that confinement in school-rooms enfeebles the body, and thereby the mind. How perfectly miserable probably every reader has been upon the schoolhouse bench—a sure sign of violated law. But when play-spells and noonings came, did we not run, and jump, and hallo, and breathe deep and fast, and thus send the boiling blood coursing throughout the system, freighted with the materials of life and growth, with new force? Beside, how much faster we learned after than before! The brain is the last portion of the system to form and mature. Hence, if youths should not be put to hard work till twenty, they should not be confined to hard study till even a later period. Many a dull boy has made a smart man. Excessive parental love and vanity too often try every possible method to render their children prodigies while young; yet confining a child in school both prevents the manufacture of vitality, and diverts what little there is from the body to the head, and thus debilitates both. This method of forcing premature development, weakens all a child's powers while alive, and hastens its death as well. But as we shall recur to the evils of precocity hereafter, we dismiss this matter here, simply adding that children should be taught mainly while on foot and in motion, and that the first care in parents should be to build a deep and broad foundation for mental greatness, in powerful constitutions and strong muscles, and THEN proceed with the superstructure.

In general, nothing is lost, but everything is gained, by not sending them to school till they are twelve, fifteen, or eighteen years old, and a quarter's play will often save a quarter's sickness. But whether they go to school early or late, much or little, they should not be required to sit above half or three-fourths of an hour at a time when play-spells should relieve their restlessness, and sharpen up their minds for renewed action. And the longer these play-spells the better. But as our present object is to show the the importance of juvenile exercise—not education, a point elsewhere discussed, we drop it with the remark, that schooling should never curtail play, because muscular motion does children more good than books.

## CHAPTER V.

## THE BRAIN AND NERVOUS SYSTEM.

Suppose all those beautiful and perfect contrivances already described, of stomach, liver, intestines, heart, lungs, skin, bones, and muscles—the entire man—complete and in perfect order, all would be utterly useless but for some means of MANIFESTING MENTALITY. The mind is the man, and *its* measure *his* measure. This alone renders man both immortal and divine. It is the mind alone which enjoys; and since happiness is the great object of existence, of course our enjoyments are proportionate to the amount and right exercise of our minds. For its sake—to subserve its function—all other organs and functions were created; and hence the one end of life should be to promote its action.

But this mentality must have its ORGAN. Nature's motto is—an organ for every function. As digestion, circulation, motion, hearing, and all the other physical functions are performed by means of organs, shall not this crowning function of all have its organ also? It has; and that organ is the brain—an apparatus every way adapting to execute the mental functions.

Fully to prove that the brain is the organ of the mind, is not our present purpose, but simply to show its adaptation to this end. This will be seen in

## THE LOCATION AND STRUCTURE OF THE BRAIN.

The brain occupies the cavity formed by the skull. Being extremely delicate, it is protected by the skull, the spherical form of which is admirably calculated to guard it against injury, break the force of contusions, and prevent fractures. Beneath this skull is a tough, hard membrane, called the *dura mater*, which envelopes the brain, and dipping down lengthwise through its middle portion, partially separates it into two halves, called hemispheres. Under this is a thin lubricating film called the *arachnoid*, or spider's web membrane, and below it again is still another fine-textured vascular membrane, which dips down into all the folds of the brain, and is perfectly full of blood-vessels and nerves, being to the brain, probably, what the skin is to the body.

The brain is exceedingly soft—about the consistency of jelly—and its inner or medullary portion is composed of two sets of nerves, one of which converges from its centre to its surface, and the other from its surface to its centre. These nervous fibres are filled with a semi-fluid called neurine, which probably exercises and transmits sensation and mental action by means of undulations or motions.

## THE CEREBELLUM AND ITS FUNCTIONS.

A thick membrane resembling the *dura mater*, called the *tentorium*, stretched across horizontally, separates the brain into two divisions, the upper and larger of which is called the cerebrum or brain proper, which performs the mental functions, and the lower and smaller of which is called the cerebellum, or little brain, which in all probability serves to carry on the physical functions. Sever the nerve which passes between the brain and stomach, and hunger is destroyed, and digestion nearly suspended. The stomach simply digests, whereas hunger and gustatory pleasure are experienced by an organ of the stomach, located in the cerebellum, called ALIMENTIVENESS. In like manner, the sexual emotion is not experienced in its apparatus, but in the cerebellum, by a cerebral organ called AMATIVENESS. Now, since two of the physical functions are known to be performed by means of cerebral organs acting in conjunction with the physical—that is, since the stomach and sexual

apparatus have their cerebral organs in the cerebellum, have not the heart, lungs, muscles, liver, bowels, pancreas, kidneys, and all the other organs of the body, also, their cerebral organs in the cerebellum ?

This conclusion is fortified by the fact that all the nerves which connect the brain with the body proceed from the cerebellum. This establishes the most perfectly reciprocal inter-relation between the body and cerebellum, and the near relationship of the cerebellum and cerebrum renders their states also reciprocal, and thus is proved and explained that perfect reciprocity between all the states of the body and mind already pointed out, and to be hereafter more fully applied.

These facts and deductions warrant the conclusion that the brain does something besides think and feel—that it generates and sends forth the vital spirit which animates all parts of the body, infuses life and action into them, and sets and keeps the entire human machinery in motion ; so that its healthy state is essential to that of the body, and its disease a cause of the disease of the body.

#### THE NERVOUS SYSTEM.

The nerves are but a continuation or extension of the substance of the brain throughout the system. This is effected by means of the spinal cord, which is enclosed in the spinal column or back bone. The substance of this cord and of the nerves closely resembles that of the brain.

This cord gives off nerves at each spinal joint, to the heart, lungs, stomach, liver, viscera, and all the other internal organs.

Nerves also go off from these joints to the hands, feet, muscles, bones, and every portion of the body. Another nervous track is called the great sympathetic nerve, which traverses the cavity of the chest from thorax to abdomen. Thus a double nervous inter-communion of all the organs of the body is maintained both with each other and with their common centre—the brain. These nerves are always found in close proximity with blood-vessels—both arteries and veins—the three always accompany each other throughout the system. And not only is every *principal nerve* thus supplied with blood-vessels, but even every shred of every nerve, and even every fibre of every muscle, is similarly supplied with both blood-vessels and nerves. Wherever there is life, there also will nerves be found, and the more life in any part, the more nerve will there be.

#### THE FUNCTIONS OF THE NERVES.

These nerves are of three kinds—those of sensation, those of voluntary motion, and those of involuntary motion. The nerves of sensation proceed from the back half of the spinal cord, and those of motion from the anterior half. Soon after they issue through the joints, they unite, are incased in common sheath, and cannot be distinguished from each other. Yet on cutting the nerve, say that which goes to the hand, or issues from the interior half of the spinal cord, all sensation is destroyed, so that the hand may be cut, burnt, anything, without feeling it, while, on cutting that from the posterior half, all power of motion is destroyed. The involuntary nerves go to the heart, lungs, stomach, and other internal organs, so as to carry on their several functions irrespective of the will, while asleep, and when attending to the affairs of life, an arrangement absolutely indispensable.

The nerves of voluntary motion are distributed mainly to the muscles, and enable us to govern them at will—to move the hands, feet, and body, in accordance with the determinations of the will ; while those of sensation are branched mostly upon the SURFACE of the body, stationed as sentinels upon the outer walls, to warn us against the approach of all enemies to life and health—to tell us when we are too warm, or too cold, or in contact with anything injurious. The opinion has already been expressed that the skin consists of a network of blood-vessels and nerves—so minutely ramified, that

the finest needle cannot be thrust through any part of it without lacerating and paining some of them. The minuteness of this ramification is absolutely inconceivable. Nature is as infinite in her littleness as in her greatness.

Words utterly fail to describe and the human mind to conceive the fineness of these capillary formations, as in the structure of the lungs, blood vessels, pores, and nerves. In this infinite littleness of nervous ramification in the skin sensation takes place. These nerves ultimately end in an infinitude of little papillæ or feelers, which cover the entire surface of the body, and create that sensation of which we are all conscious.

These nerves are much more abundant at the surface of the body than internally; and hence in amputations, and all cuttings and bruises, bites, and sores, the greatest pain is nearest the skin, it being comparatively slight after the cut or hurt has fairly passed below the skin. Yet when a bone has become inflamed it is also exceedingly painful; yet here also the pain is mainly at its SURFACE. Since the inner portions of the body are protected by the outer portions, as great a supply of the nerves of feeling internally and externally would be a useless expenditure of vitality.

Yet a still greater sentry of nerves is stationed at some points than at others, as about the eyes, hands, and especially ends of the fingers, the utility of which is beyond all computation.

The importance of the sensation thus effected is incalculable. Without it we could never know when we were too cold or too warm, when our flesh was burning, or freezing, or bruised, or mangled, or experiencing any sort of injury or destruction, unless we chanced to see it. But now, the instant they come in contact with whatever injures them or the system, they occasion pain, and thus cause a spontaneous shrinking from the noxious body, which saves us from further damage. The suddenness with which this warning and shrinking occur, as when we touch fire, or are cut, or pricked with any sharp instrument, is astonishing. The very instant we touch fire, for example, we jerk away the part affected. The nerves feel pain, telegraph that pain to the brain, muster the will, which gives the muscles a mandate to remove the part affected, and they obey, all in the twinkling of an eye. The importance of this instantaneousness is very great. The injury in cases of burns, punctures, bruises, &c., is extremely sudden, so that if it were not for this instantaneousness great havoc would occur before it could be arrested. This arrangement of pain is one of the most useful institutions of our nature.

But this function of pain is by no means the only one experienced by these nerves; indeed it is not their chief one. Their principal function is to yield a pleasurable sensation when the body is in a natural state. For such pleasurable sensations nature has amply provided. Every arrangement of external nature is adapted to give us pleasure when her laws are observed. Nor do we realise how much pleasure our nervous system yield us. Like breathing, it is so perpetual as not to be appreciated. This pleasure might be doubled many times over if we but kept our nerves in a perfectly healthy and highly active state. Take some examples. Your face, before it was washed in the morning, does not feel half that pleasurable glow experienced after it is washed. Why? Because the ablution cleanses and quickens the nerves of the face. Or wash, say, one limb, hand or arm, or half of the body, or part of a limb, and not the remainder, and the washed portions will feel as much more comfortable as can well be imagined. The experiment is well worth trying, and powerfully enforces the importance of those ablutions of the whole body already recommended. Nor do those know who have not tried the experiment how much more lively, brisk, buoyant, and happy bathing renders those who practice it, not at the time merely, but for hours and days afterwards.

So also colds, which impair the sensitiveness of these nerves, either benumb them so that they feel but little, or fever them, and cause a kind of restless, crawling, burning sensation, which make us almost want to "jump out of our



skin." What we call the *creevels* consist in a crawling, feverish, painful state of the nerves, and can be obviated by restoring them to healthy action. Nor can we conceive how much of our suffering comes directly and indirectly from the disordered and therefore painful conditions of these nerves, nor how superlatively happy we could render ourselves by keeping these feelers in a vigorous and perfectly healthy state. But the entire drift of many people's habits tends to deaden and disorder them, and thus to convert the pleasure they were created to confer into pain. We begin to vitiate these nerves in the cradle by extra dressing and a confined and over-heated atmosphere, and go on to weaken and disorder them more and more through life. Every cold we take they suffer—are the chief sufferers. Have you never felt, while suffering from cold, an indescribable sensation of nervous crawling uneasiness, exceedingly disagreeable, so that you could neither sit, nor stand, nor walk, nor lie still comfortably? You feel as though you would fain spring right away from yourself, or, snail-like, shed your skin, if you could only relieve yourself from this wretched state of feeling. This state of the nervous system is particularly apparent when we have taken cold, and in the incipient stages of fever, while the chills of ague and fever are on, and generally when we are unwell. What are called nervous, hysterical people, are particularly liable to this feeling, and their condition is indeed pitiable. Yet they should not have brought on this nervous disorder.

But the evils of diseased nerves do not stop here. They extend also to the mind, and render the entire being more and still more wretched the more they are disordered. They not only inflict the *creevels* and the fidgets upon the body, but still more upon the mind. That connection of the nerves of the skin with all the nerves of the body, and of the latter with the cerebellum, and through it with the cerebrum, engenders the same condition in the brain which exists in the nerves. It is not possible for the nerves of the skin to be affected without similarly affecting both brain and mind. If the former are in a feverish, unhappy, or painful state, they diffuse the bad effects of that state throughout all we think, say, do, desire, and feel. Nervous people, or those whose nerves are disordered, are always fretful. They feel wretched both in body and mind; and if they do not worry and find fault with everybody and everything it is not because they do not feel irritable. Disordered nerves would render an angel cross. However amiable a woman may be by nature, just as surely as her nerves become disordered just so surely does she become peevish and fretful, if not ill-natured and bad dispositioned. Thus disordered, she would find fault in paradise if there. But restore her nerves to their normal, and therefore happy state, and you restore her to her usual serenity of mind and sweetness of temper. What worried her before now gives her pleasure. She laughs now at what she scolded then. Those mental troubles which then preyed upon her mind have now taken their flight. Indeed she was troubled in mind only because she was disordered in body. The troubles of such people are imaginary, not real; or if real, they are magnified in the exact ratio of the disease of their nerves. If such have no real cause of trouble they will make it out of something else. As every touch of the gathering bile gives pain, which, if the part were well, would give pleasure, so with their minds. The irritation of their nerves irritates the brain, and this renders them inordinately irritable about trifles, even in spite of everything calculated to promote a cheerful and happy frame of mind. Trifles excite them more than the cares of kingdoms should do. A great load presses perpetually upon them. They feel as though some terrible calamity—what, they know not—impended over them, ready to fall upon and crush them. Their excited imaginations magnify molehills till they become mountains. They are rendered wretched from morning till night by a perpetual fever of excitement; tossed backwards and forwards by currents and counter currents of feeling, which they find it impossible to control. At one time they are

elated beyond measure and full of ecstacy. Then some trifling thing, too insignificant to affect a healthy brain, casts them into the very depths of despair. The sensibilities are morbidly alive to everything. They retire to their couch, but not to sleep. The boiling blood courses through their veins, while the labouring pulsations of their hearts shake their whole frame. Their thoughts wander to the ends of the earth, but to no purpose. They think and feel upon everything only to increase their disease and aggravate their mental sufferings. If Cautiousness be large, they are afraid of their own shadows, and see their path filled with lions and tigers. If Approbativeness predominates they thirst for fame, but see the cup of praise dashed from their lips by merely imaginary neglects, or reproofs which are so construed as to induce the deepest chagrin and mortification. They seek sleep, but find it not. Hour after hour they turn upon their damask couches, exhausted by mental action, even to prostration, but unable to compose their excited feelings. Their brightest thoughts flit like meteors across their mental horizon, only to vanish in midnight darkness. And if tardy sleep at last enfolds them in his arms, dread dreams disturb their slumbers, and they awake in deep and terrible melancholy. They feel keenly only to feel most wretchedly. Now and then a sigh or groan escapes them, and they feel internally, "O wretched man that I am!" They feel burdened with they know not what. Things otherwise their joy are now their misery. Their nervous energies are wrought up to the highest pitch of inflamed action; yet they have no strength to endure this excitement. Days and weeks roll on only to augment their miseries and to increase their exhaustion. Their excited minds thirst for books, but mental application only increases their malady and their miseries. Do what they will, be they in what circumstances they may, their disordered nerves turn all they touch into occasions of wretchedness. The difference between the talents, character, and happiness of the same person who when his nerves are healthy and when diseased is infinite. None can never understand but those who know them by experience the sorrows of persons thus afflicted.

Since healthy nerves render us thus happy, and disordered nerves thus miserable, the inquiry, how to keep the nervous system in health, is of the utmost importance. Our answer is, do nothing to derange them and they will never disorder themselves. The two general directions are, first, keep the skin clean and active by bathing; and, secondly, give them *action*. Exercise is as requisite to them as to the muscles or lungs, or any other portion of the body. Yet whoever thinks of providing exercise for the nerves? One means of securing their action is by promoting cerebral action, of which we treat in Vols. II. and III., and the other means is by exercising them direct.

But the great direction is not to over-tax them by highly stimulating meats and drinks, such as alcoholic and fermented drinks, or narcotics—as tea, coffee, tobacco, and opium, or mustards, spices, and condiments generally. No kind of simlants should ever be administered to children or youth. They are sufficiently excitable and active already. Opium, in any of its forms, is most detrimental to infants. But of this, in our volume on "Maternity."

But mental excitement, anxiety, and trouble as effectually deranges the nervous system as any other cause, and should therefore be avoided. The fact is all should arrange their houses, lands, businesses, domestic affairs, and everything around them, little and great, so as to render themselves as happy as possible, and by all means avoid occasions of sad feelings and vexations; and if trouble *does* overtake them, as the loss of friends, domestic difficulties, failure in business, or anything of the like, they should banish it as far as possible from their mind and try to think on what gives pleasure. Children also should be crossed and provoked, and especially flogged, as little as possible, because the painful excitement thus occasioned is directly calculated to disorder their nervous system.

Having expounded the principal organs and functions of the human body,

and shown how to preserve them in a healthy and vigorous state of action, we are thus brought to consider the general subject of diseases and their remedy, which, next to the preservation of health, becomes an all-absorbing subject of human inquiry.

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## CHAPTER VI.

### THE REMEDY OF DISEASES.

ALL the physiological organs thus far described though their normal function is fraught only with life and happiness, are capable of taking on that abnormal or diseased function which results in pain and constitutes disease. Diseases assume different forms, according to the organs disordered, the degree of the disorder, and some other circumstances; yet the nature of disease is much less complex than generally supposed.

Though a few of the violations of the physical laws are punished with incurable penalties, yet most cases of disease, poisons not excepted, taken in season, can be cured. In fact, nature seems to have taken the utmost pains to cure most, if not all, the "ills that flesh is heir to."

Medicines abound in the vegetable kingdom; and, abounding there, why look any farther for them?

Especially let us not *poison* the system in order to cure it.

The reputation which poisons have got for curing diseases is due mainly to abstinence from food, to perspiration, and emptying the stomach. The effects of calomel, &c., upon the teeth alone brands them with unequivocal condemnation, for whatever injures them first disorders the stomach. The decay of the teeth foretokens incipient dyspepsia; and since they are always impaired by these medicines—and whoever has taken poison is a living witness of this fact—they of course always enfeeble the stomach.

Narrowing down our observation to that popular medicine, CALOMEL. It powerfully stimulates the liver, but stimulates by *poisoning* it. Hence, liver affections almost always follow its administration—*always* except when both stomach and liver are extra powerful. Dyspepsia follows its use almost as surely as daylight follows sunrise. Let observation, the more extensive the better, pronounce the verdict. Language can never adequately portray its ravages on health and life. On this point hear professor Chapman, of Philadelphia:—

"Gentlemen,—If you could see what I almost daily see in my private practice in this city, persons from the South, in the very last stages of wretched existence, emaciated to a skeleton, with both tables of the skull almost completely perforated in many places, the nose half gone, with rotten jaws, ulcerated throats, breaths more pestiferous, more intolerable, than poisonous vapors, limbs racked with the pains of the Inquisition, minds as imbecile as the puling babe's, a grievous burden to themselves, and a disgusting spectacle to others, you would exclaim, as I have done, 'O! the lamentable want of science that dictates the abuse of that noxious drug, calomel, in the Southern States!' Gentlemen, it is a disgraceful reproach to the profession of medicine; it is a quackery, horrid, unwarranted, murderous quackery. What merit do gentlemen of the South flatter themselves they possess by being able to salivate a patient? Cannot the veriest fool in Christendom salivate—give calomel? But I will ask another question. Who can stop its career at will, after it has taken the reins into its own DESTRUCTIVE AND UNGOVERNABLE HANDS? He

who, for an ordinary cause, resigns the fate of his patient to mercury is a vile enemy to the sick ; and, if he is tolerably popular, will in one successful season have paved the way for a good business through life, for he will have enough to do afterwards to stop the mercurial breach in the constitutions of his dilapidated patients. He has thrown himself into fearful proximity to death, and has now to fight him at arm's-length as long as the patient maintains a miserable existence."

Dr. Graham of Edinburgh, in speaking of mercurial medicines, says :—

"They affect the human constitution in a peculiar manner, taking, so to speak, an iron grasp on all its systems, and penetrating even to the bones, by which they not only change the healthy action of its vessels, and general structure, put greatly impair and destroy its energies ; so that their abuse is rarely overcome. When the tone of the stomach, intestines, or nervous system generally, has been once injured by this mineral, according to my experience (and I have paid considerable attention to the subject), it could seldom afterwards be restored. I have seen many persons to whom it has been largely given for the removal of different complaints, who, before they took it, knew not what indigestion and nervous depression meant, only by the description of others ; but they have since become experimentally acquainted with both, for they now constantly complain of weakness and irritability of the digestive organs, of frequent lowness of spirits and impaired strength ; of all of which, it appears to me, they will ever be sensible. Instances of this description abound. Many of the victims of this practice are aware of this origin of their permanent indisposition, and many more, who are at present unconscious of it, might here find, upon investigation, a sufficient cause for their sleepless nights and miserable days. We have often had every benevolent feeling called into painful exercise upon viewing patients already exhausted by protracted illness, groaning under the accumulated miseries of an active course of mercury, and by this for ever deprived of perfect restoration. A barbarous practice, the inconsistency, folly, and injury of which no words can fully describe."

This is the testimony of ITS FRIEND—of distinguished members of the medical FACULTY—and it is true of the PRINCIPLE on which calomel and *all* mineral poisons act. And the more virulent the poisons, the worse. Those who take them may recover, yet it will be in spite of both disease and medicine; and their recovery will be slow, and their constitutions will be impaired.

"But," retorts one, "I took calomel, arsenic, quinine, and other condensed poisons, and was immediately relieved, and was more robust afterwards than before." Aye, but how long did you remain so? In a few months your stomach became impaired, and various aches to which you were before a stranger, afflicted you. Still, all are at liberty to swallow all the rank poisons they please ; but I for one, however sick, should rely on other remedies, and particularly on abstinence and perspiration.

Scarcely less detrimental than these poisons, is that custom of draining the life's blood which generally accompanies it. Bleeding does not extract the disease, or at least only in proportion as it withdraws life itself, and repeated bleeding diverts the vital energies from brain and muscle to the EXTRA manufacture of blood.

A summary of these medicinal principles shows that we place far less reliance on medicines, even vegetable ones, as restorative agents, than on *physiological* prescriptions. Obey the laws of health, and we need not be sick ; and when sick, a return to this obedience is the most direct road to health. Still, the existence of medicines shows that they should be taken. Yet why take them in their prescut highly condensed form ? Why not take them in that diluted form in which we find them in nature ? In short, why not take them along with our food ?

## A MEDICAL DIET BETTER THAN CONCENTRATED MEDICINES.

That certain kinds of food are eminently medicinal, is a matter of universal experience. Thus, many kinds of food act as powerful cathartics. Then why not follow nature, and always move the bowels by diet instead of concentrated medicines? But we shall touch this point again. What we wish now is to establish the PRINCIPLE, that nature has furnished us with all the medicines we require in *food*, and that medicines thus administered are always efficacious, and never leave a sting behind? We have already shown that what the system requires it will RELISH; and what is either repulsive to the taste, or painful in its operation, is injurious; the plain inference from this is that whenever the system requires any particular kind of medicine, appetite will crave those kinds of food which will affect a cure. Every medicinal law of nature centres in this focus. Granted, that mankind have not yet ascertained a tithe of the different kinds of food adapted to remedy given disease, yet the fact that some kinds are good for some complaints favours the conclusion that ALL disease have their specific cures in particular kinds and commixtures of diet. I can read nature's curative laws in no other light. But more on this point under the cure of dyspepsia.

"But when we are sick we have no appetite for any kind of food," objects one. Then fast. Fasting is what your system then demands. Let it not be supposed that we rely *mainly* on medicines, or even on medicinal food to cure diseases, but on a general observance of the laws of health, and on medicines, whether in food or out of it, as only secondary aids. Nature is our great physician. Those patients who put themselves under her treatment, may rest assured of an effectual if not very speedy cure.

## PROPORTION AMONG THE FUNCTIONS ESSENTIAL TO HEALTH.

What but PROPORTION between those attractive and repulsive forces which cause the motion of the earth, keeps it in its orbit? As the top of the tree increases, so do its roots. This law runs through the vegetable kingdom. It obtains equally in the animal economy. Nature requires and compels to breathe the more and more we exercise. Thus the more we use our muscles, as in working hard, walking fast, or running, lifting, and the like, the more we must breathe; the increase of respiration being exactly in proportion to that of muscular action. Of this all are witnesses every time they increase or diminish their exercise. Nor will nature allow us to breathe copiously, without proportionate action of body and mind.

This law applies equally, though no less obviously, to food. Who does not know that labour and all kinds of exertion, whether mental or physical, promote digestion as well as increase the appetite for food. Hence labourers eat more than sedentaries. And those who will eat more than they work, must suffer. This law cannot be broken with impunity. In fact, the broken constitutions of most of those who go from the farm and the workshop to college or some sedentary occupation, are caused mainly by violating this law of proportion. They continue to eat as before, yet do not work off that food; and hence the headaches, ennui, debility, nervousness, dyspepsia, and kindred diseases of our literary and sedentary classes. Study does not make men invalids, but is promotive of health and longevity. People are enfeebled by over-taxing their stomachs, while they starve their muscles for want of action.

Take that city *belle*, rendered delicate, nervous, sickly, miserable, by excessive nervous and cerebral derangement consequent on novel reading, parties, amusements, and all the excitement of fashionable city life. *Medicines* can never cure her, but *work* can. Her malady consists in a preponderance of nerve over muscle, and her remedy consists in restoring the balance between them. She is doomed either to wear out a miserable existence or else to

EXERCISE HER MUSCLES ; nor can salvation come from any other source. And one of the great reasons why journeying, visits to springs, voyages, and the like, often effect such astonishing cures, is that they relieve the nervous system by increasing muscular and vital action. The same exercise taken at home would cure them quite as speedily and effectually. Nine in every ten of the invalids of our land are rendered feeble by this one cause, and can be cured by labour. How many thousands, so weakly and sickly that they begin to despair of life, finally give up their business and move upon a farm, and soon find themselves well. Exercise has often cured those who have been bedridden for many years, as seen in the following :—

A physician of some repute in Lowell, Mass., was called thirty miles in great haste, to see a sick woman whose case had thus far baffled all medical treatment, and was regarded by all her friends as hopeless. All they expected was merely to mitigate a disease of long standing ; recovery being considered out of the question. The doctor came, saw that she was very nervous, and had been dosed almost to death, and told her that if she would follow his directions implicitly he could cure her ; for he had one kind of medicine of great power, but which was useful only in cases like hers, in which it was an infallible cure. After telling her how often she must take it, he added, that she must get up and WALK ACROSS THE ROOM the second day, and RIDE OUT the third. “ Oh, that she could never do, for she had not been off her bed for many years, and was so very weak, etc., etc. “ Oh, but,” said the doctor, “ this medicine will give you so much strength that you will be able to do so, and it will prevent any injurious consequences arising therefrom. And, besides,” he added, “ the medicine will not operate unless you stir about considerably. Do just as I tell you and you will be off your bed in ten days.” She sent an express thirty miles after this medicine, bread pills, rolled in aloe to make them taste like medicine. She took them, and took the EXERCISE as prescribed, and the third day she actually got into a carriage, and in ten days was able to leave her bed, and soon after was able to work, and she yet lives to be a blessing to her family, and to pour upon the doctor a flood of gratitude for performing so wonderful a cure—a cure which none of the doctors had been able to effect, and which nothing but restoring the lost proportion between her nerves and muscles could have effected. Nor do I hesitate to affirm, as my deliberate conviction, that nineteen-twentieths of the invalids, especially females, of our land, are rendered so mainly by *excessive nervous* and *deficient muscular and vital action*, and can be cured by banishing care and exercising in the open air.

I say in the open air, because many are rendered invalids, not by want of sufficient exercise, but by insufficient BREATH. Yet females, and those who work hard in-doors perpetually, such as clerks, in packing, unpacking, etc., often lose their health because they do not BREATHE in proportion to their exercise. That is, they inhale rarefied air, and thus do not obtain a supply of oxygen adequate to its consumption. The object of breathing is to obtain this oxygen, and the reason why we breathe the more the more we exercise, is that we consume the more oxygen. But when, though we breathe copiously, we do not obtain a due supply of oxygen, the evil is analagous to a proportionate suspension of breath. Such should work less, and thus preserve the proportion between the consumption and the supply of oxygen.

Consumptive families and patients furnish another illustration of this principle. Why are they consumptive ? Because their brains and nerves predominate over their vital and muscular apparatus, as is evinced by the fact that they are slim, sharp-featured, small-chested, and have small muscles, great sensitiveness, intense feelings, clear heads, and fine feelings. This DISPROPORTION of function constitutes their consumptive tendency. Restore the balance and you obviate the tendency. Or, thus, their lungs are too small for their brains. Apoplexy, gout, obesity, corpulency, and the like, are caused by the opposite extreme, and can be cured by eating less and working more.

Precocious children and youth furnish another illustration of our doctrine. How frequent the expression, "That child is too clever to live;" because general observation attests the premature death of most extra clever children. Hear that broken-hearted mother enumerate the virtues of her departed child—tell how fond of books, how quick to learn, how apt in his remarks, how sweet-dispositioned and good, all produced by excessive cerebral action. His death was occasioned by the predominance of mind over body. Its head ate up its body. As the vital energies cannot be expended twice, and as an extremely active brain robs the muscles and vital apparatus, the muscles and vital organs cease to grow, become feeble, are attacked by disease, and die, and of course the brain also dies. And such parents, ignorant of this principle, too often ply such prodigies with books and mental stimulants, and thus aggravate the disproportion and hasten death, whereas they should pursue the OPPOSITE course—should use every exertion to restrain cerebral and promote muscular action.

Extra talented and lovely youths are also more mortal than others. The flower of both sexes are more liable to die young than those more coarsely organized, because of this same predominance of cerebral over muscular and vital power. A large proportion of those who take our first college appointments die soon after they graduate, because they have studied, studied, studied, night and day, the year through, thus keeping their brains continually upon the stretch, yet using their muscles little more than to go to and from their meals and recitations. Is it any wonder that they pay the forfeit by impaired health, blighted prospects, and premature death? What an omission that their entire range of classical studies should not embrace so important a law as this.

The working classes furnish a converse illustration of this law. They exercise their muscles too much and their brains too little. They labour, eat and sleep, and that is about all. To the crowning pleasures of humanity, resulting from the exercise of MIND, they are comparative strangers. Their muscles rob their brains as effectually as the heads of the literati rob their bodies. If they sit down to read, or listen to a speaker, they fall asleep. Their finer sensibilities become blunted by inaction, just as those of the fashionable classes become morbid by over action. Their minds are sluggish, their thinking powers obtuse, their feelings hard to rouse, and all their capabilities of enjoyment partially palsied, because most of their energies are directed to their muscles. Besides this loss of enjoyment, they are much more subject to actual disease than they would be if they laboured less and studied more.

Slaves furnish still another illustration of the violation of this law. They exercise their muscles still more, relatively, and their brains still less, books and study being prohibited.\* Hence, no small share of their admitted mental obtuseness. The principle also applies to the working classes of the old world. Labourers generally might live many years longer, and live much more happily, if they worked less and studied more.

Unhealthy trades, as shoemaking, saddlery, drawing, painting, sewing, and the like, are generally rendered so by exercising only a portion of the system, and might be rendered salubrious by calling into vigorous exercise the dormant limbs and muscles an hour or two a day. To seamstresses this advice is particularly applicable and important. Sitting for months together in one posture, arched inwardly, and their shoulders thrown forward, thus doubly impeding respiration, digestion, and all the vital functions, at the same time taking next to no exercise, no wonder that so many of them break

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\* Can that institution be "all right" which represses intellect? Must mind, the ultimate end of human creation, be fettered? The unrestricted exercise of intellect is as inherent a right of human being as breath or sight.

down even while learning the business, and sew in misery for life. Let such walk at least four miles a day, or dance an hour before retiring; and also sit up straight while they sew, and it will not injure them. They should also restrict their diet.

But the institutions of society are most unfavourable to this required proportion of muscular, vital, and mental action. As things now are, those who work at all, work excessively; and as labour is considered a disgrace, all who can are straining every nerve to live without it. Society should be so constructed as to require labourers to work only about half the day, and allow then the remainder for mental and moral cultivation, while the literary, sedentary, and fashionable classes should labour several hours every day, if not for wages, at least for health. The fullest measure of personal happiness requires that all should appropriate about eight hours in every twenty-four to the vital apparatus—to sleep and food, or the supply of exhausted animal energy—about four or six hours more to muscular exercise, mostly in the form of manual, productive labour, and about ten or twelve to mental cultivation, moral improvement, etc. "All work and no play," cuts off that vast range of pleasure designed and adapted to flow into the soul of man through the channel of mind; and continued mental application, by concentrating vitality in the brain, withdraws it from the muscles, stomach, and heart, thus imparting respiration, circulation, and all the vital functions, and of course curtailing talent and even life itself, while epicures, gentlemen and ladies of pleasure, and all fashionable idlers, rob both muscle and brain, so that all these classes fail to obtain the great end of life—happiness. Whereas, if all would labour about four or six hours a day, so as to promote all the animal functions and ensure health, they would thus furnish the brain and nervous system with an abundant supply of that animal energy so indispensable to mental power, and thus vastly enhance clearness of thought, retentiveness of memory, intellectual attainments, and moral excellence. Nor can any become great or good without MANUAL LABOUR. Man *must* exercise, if only to keep his brain in working order, it being to the brain what the sharpening of his tools is to the workman. Labourers plead that they have no time to study, but they should *take* time. They were created to enjoy; and since they can enjoy much more by commingling study with labour, practical wisdom requires that they make mental culture as much a part of their business as work. Business men and professional men, lawyers, ministers, bankers, brokers, merchants, clerks, editors, artists, etc., again say they have no time for exercise; but let such remember that exercise is the very way to **MAKE** time, by augmenting mental efficiency, and especially prolonging their lives. The result is that our business, fashionable, and sedentary classes have a great preponderance of the mental temperament over the vital and muscular, and hence are delicate, sharp-favoured, homely, exciteable, dyspeptic, nervous, melancholy invalids, living but a short and miserable life, while the working classes, though endowed by nature with excellent heads, yet lack that cultivation requisite to the development of their natural talents and virtues.

Were the sole object of my life to see how long I could live, or even how happily, I would divide each twenty-four hours into three parts, and devote eight hours to sleep, rest and meals; six more to vigorous exercise, or rather hard labour; and the remainder to the exercise of mind, uniting the last two whenever practicable. Or, even were my object to become intellectually great or learned; or were my health my object; or all these combined, I would pursue the same course. Burritt, the learned blacksmith, is often referred to as an intellectual prodigy. He certainly is the wonder of the learned world. Besides understanding more than fifty languages, he has accumulated a richer treasure of historical and miscellaneous information than probably any man living; and yet, in his letter to ex-Governor Everett, he states that his poverty compelled him to labour at the anvil **EIGHT HOURS DAILY**. This is the one



main secret of his greatness. "Go you and do likewise," and train up your children, too, in harmony with this principle.

## GROWING YOUTH AN EXCEPTION TO THIS LAW.

Since youth requires a great expenditure of vital energy during growth, the vitality should predominate over the mentality. The order of nature requires that the great proportion of their vital energies should be expended in laying a deep and broad foundation for a corresponding superstructure of mental greatness, and every item of vitality required by the body, when expended on the mind, only weakens both. The great fault of modern education is, robbing the body to develop the mind—trying to make learned babies and nursery prodigies at the expense of health. In doing this, parents often make children simpletons for life or else youthful corpses. As when the miser had learned his horse to live without eating, it died : so just as these children become extra smart, they die. Where are those poetic geniuses, the Misses Davidson ? In their graves at fifteen ! What folly parental vanity often perpetrates ! Better no education than such robbery of the body, ruin of the health, and destruction of life. Better ripen too late than too early. As early fruits soon decay, but late ones keep all winter, and as the poplar tree, and all vegetables which grow fast, die soon, while the slow-growing oak and pine last long, and do much more service, so it is with children. So certain and uniform is this law, that the length of life of all animals can be calculated from the age at which they come to maturity. This law governs all that grows, man included. Accordingly, long-lived persons mature late, and our most talented men were backward boys. Adam Clarke was a very blockhead at school—an eyesore to his teacher, and a byword among his mates. And what was young Patrick Henry ? The dullest of the dull. Most distinguished men of all ages were backward boys ; and, in general, they entered on their career of greatness late in life. Let my children be children till out of their teens, and let them enter too late upon the business of life rather than too early. This eagerness of our youth to begin life early, occasions immense misery. I would not leave the minds of my children an uncultivated waste, yet I would expend only their surplus vitality in either study or labour. I would not sacrifice one iota of health to mental acquirements. The brains of children are soft, and their nerves less sensitive to burns, bruises, colds, and hurts than those of adults. The nervous system is the last to mature, and the last to yield to the approaches of age and natural death. Hence, little pains should be taken to cultivate the intellect, until nature has fully matured the brain and nervous system. Some species of animals, the dog included, are born blind. What consummate folly it would be to cut open their eyes, or to put on glasses, or attempt to make them see by artificial means before their natural time ! Let nature have her perfect work. Follow where she leads ; but never outrun her. Let your first labour be to give your children **STRONG CONSTITUTIONS**, and to lay in for them as large a supply of physical energy as possible. You may cultivate their intellects, but not so much as to withdraw their energies from growth. Let intellectual attainments be what nature has made them, **SECONDARY**, in point of time. Would you not lose by hurrying your fruit-trees into bloom so early that the frosts of spring would certainly nip the bud ?

## EXCESS OF CARBON A PROLIFIC CAUSE OF DISEASE.

If this great law of health—proportion of function—requires confirmation it is to be found in the number and aggravation of those diseases engendered by an excess of carbon in the system. Why do northerners sicken at the South ? Because they continue to eat as freely as before. A given quantity of oxygen can combine with no more than its fixed equivalent of carbon ; and since a warmer and therefore more rarefied atmosphere prevents them inhaling as

much oxygen as at the North, they of course evacuate less carbon from the system by respiration than they take into it by eating and drinking. A surfeit of carbon is the necessary consequence, and this induces those malignant fevers which prevail in tropical climates. Southern emigrants who eat less and bathe much escape, because they occasion no such glut of carbon. All who move South, besides eating less, should eat food less highly carbonised, for the same reason that we should eat less, and less highly-carbonised food in the summer than winter.

The summer complaints of children have the same cause—excess of carbon. This is rendered evident by the fact that they prevail most in hot weather, and diminish as the cold season approaches. They then inhale more oxygen, and thus consume more carbon; thus partially restoring the proportion between the two. And if parents would administer less food, and that less carbonated, to children during the summer months many who now sicken and die would escape. Hence, we should give such little if any butter, fat, or sweets, because they all contain a great proportion of already super-abundant carbon.

Dyspepsia is caused mainly by carbonic surplus. This is proved by the improvement which dyspeptics generally experience on the approach of cold weather. And all whose health is better in the fall and winter than in spring or summer may rely upon it that the maladies are occasioned by surplus carbon, or, in other words, by over-eating.

The consumptive process too is partially owing to an excess of carbon over oxygen. As the lungs waste away they afford less surface for oxygenating the blood. Of course less carbon is burnt up, the body is cold, and the system decays. Let such be doubly particular to reduce their eating and increase their breathing. Of what use is any more carbon than can be burnt up by respiration? And as their stomachs are more vigorous than their lungs, of course, they should eat less than they crave.

These views are still further sustained by the chemical analysis of the putrid matter of bilis, fever sores, ulcers, diseased lungs, and the like. This matter has been ascertained to contain about fifty-four per cent of carbon. Indeed, most obstructions, irritations, inflammations, and the like will be found to consist mainly in this surplus of carbon. Abscesses may be fairly considered as outlets for that surplus of carbon which occasioned them. Hence their beneficial influence. Hence, also, butter, fat, sweets, and other highly-carbonated substances provoke bilis and cutaneous eruptions. So do high living and over-eating generally.

These proofs of our doctrine of proportion might be extended illimitably, but it is too obvious to require it. This doctrine unfolds a fundamental condition of health and cause of disease of the utmost importance. And if physicians understood this law and laboured to restore that lost balance which occasioned the disease, instead of administering powerful drugs, they would save a large portion of those patients whom they lose. And if mankind in general would preserve or restore this proportion, if the sedentary and fashionable world would study and fret less, and take more exercise—if labourers would rest and read more—if those who have over-eaten would fast, and those who sit much in-doors would exercise much in the open air the great majority of chronic invalids would soon be gladdened by returning health; and death, that most dreadful penalty of violated law, would be postponed a score or two of years. The power of every faculty of body and mind would be incalculably enhanced, and their pains supplanted by pleasures. Proportion between the eating and breathing, and proportion between these two and muscular action, and between all three and the exercise of mind and feeling, will ensure a high order of intellectual capability, moral excellence, and a long and happy life. And the application of this law to the mental faculties will constitute much of the framework of the next volume.

Exhaustion, temporary or permanent, physical or mental, consists in a deficient supply of vitality as compared with its expenditure. This is another violation of the law of proportion, and occasions a great amount of disease. Vitality resists disease in proportion to its abundance. As an active skin neutralises the effect of exposure to colds which overcome a feeble skin, so strong constitutions withstand exposures which would break down weak ones. Take an example. While full of vitality and animal vigour, say, in the morning, wet feet, malaria, noxious gases, contagion of various kinds, extreme cold, are resisted with impunity, whereas when fatigued, deprived of sleep, or hungry, comparatively trifling exposures overcome the system, and cause sickness. Keep a full supply of vitality, and it will both resist and eject disease. This is confirmed by the fact that we rarely sicken suddenly, but are ailing more or less for days or weeks before a serious attack of disease. Debility, or a diminution of the supply of vitality, leaves the system too feeble to resist renewed exposures. Even in apoplectic, and other sudden attacks, disease has been previously undermining the system perhaps for years. Most forms of disease taken in season can be thrown off at once, and protracted illness averted. Extreme and protracted exhaustion generally precedes and induces consumption, many of its victims having first worn themselves completely out just before being thrown down. But for such exhaustion they would have escaped. Many a one has been prostrated by disease after having watched day and night around the sick bed, not, as generally supposed, because the disease was contagious, but because their exhaustion left the gates of life open to the ingress of the enemy. That excessive labour invites disease is a matter of general experience and observation. How many, after seasons of unusually protracted and arduous labour, first become debilitated, and then sick. American females, in particular, contract many of their diseases in consequence of protracted exhaustion, occasioned by undue confinement within doors, late hours, restless children, and consequent deprivation of sleep, perpetual kitchen drudgery, unintermitting toil, and kindred causes; and many chronic invalids can be cured simply by rest and recreation, whose case medicines can never reach. They have expended animal energy faster than supplied it, become debilitated, and thus exposed, disease, and can be restored only by restoring the equilibrium of the system.

This exhaustion, so fatal to health, so prolific of disease, is not generally occasioned by too great an *expenditure*, so much as by an insufficient *supply* of vitality. Invalids might expend much more than they do with impunity, provided they would promote its re-supply by obeying the laws of health. Like a poor farmer, they take all *out* of the land, but put nothing *in*; and this is what reduces and disables them. If they would keep up a fully supply of vitality they might greatly increase their labours, and yet not injure themselves.

This proportion, when lost, can be generally restored. Every function can either be promoted or retarded. Indeed, nature's universal tendency is to secure the restoration of the necessary balance of the system. As over-taxed organs rob the others to obtain vitality with which to discharge their load, so strong organs succour weak ones. Besides this, the same restorative principle which has provided remedial agents in general has also provided means for the removal of this cause of disease.

One means is by diet, another is by exercise. By a law of things, the normal or natural action of any organ augments its power. Of this we are all witnesses. The hands of sailors become large and powerful, because used energetically and vigorously in clinging to the rigging and handling ropes; and as a similar increase of power and bulk is the result of all labours. The arms of the blacksmith, the feet of expert dancers and pedestrians, the chests of habitual rowers, the muscles of labourers, compared with those of the sedentary and fashionable classes, all give evidence of the truth of this

principle. Let any man having large and powerful muscles confine himself to writing or reading for years, and his muscles will decline in size and strength. But if he again returns to a laborious occupation they will increase again.

The reason of this increase by exercise is apparent. Action causes a proportionate flow of blood to any part exercised, and this blood is freighted with the materials for the supply of strength and bulk; and since this re-supply is commensurate with the exhaustion, the parts exercised must grow fastest.

But the increased power of *function* is far greater than the increase of size. Let a new hand go into the blacksmith's shop, it is true the muscles of his arms grow rapidly, yet they improve in efficiency far more, and thus of all exercised parts.

To apply this law to the lungs. A man of only ordinary vocal strength becomes a chimney-sweep or street pedlar in our cities, so that he is obliged to hullo perpetually, and he soon acquires a strength of lungs and power of voice which resound above the clatter of carriages, and all the din and roar of the most thronged streets. Take oyster pedlars for examples. And this tremendous bellowing they put forth hour after hour, day after day, and month after month the whole year round. Behold the astonishing increase of vocal power consequent on exercise.

The gastronomic powers of gluttons furnish another illustration of this law of increase by exercise. Men can divert nearly all the energies of their system to their stomachs. But the truth of our doctrine is too apparent to require enlargement. Weak organs *can* be strengthened by proper action to an astonishing degree. The question is, *How* can such action be promoted?

All who are benefited by exercise, all who feel better after taking it, all who sleep more sweetly, or experience an increase of appetite, or additional clearness of mind, or greater agreeableness of disposition, require *more*. Indeed, all whose business confines them much within doors, and all who feel a craving for motion, require additional exercise. To determine whether we need exercise is just as easy as to determine whether we require food, and by a similar sign, namely, an *appetite* for it.

To show *how* to exercise would be superfluous. All that is required is a few cautions. Sedentaries, convinced of their need of exercise, often take it in excess, or unseasonably, or too violently. That same appetite which demands exercise will, if closely watched, admonish us the instant we go beyond due bounds, when we should desist at once. A kind of trembling, hurried, excited, and yet weakened state of the muscles, so that instead of playing easily and voluntarily, they must be forced, indicates excess, which always injures. Stop exercise the instant such trembling commences.

Exercise should be taken when the system is prepared to sustain it. It is often beneficial after severe mental application. Before meals, especially before breakfast, is generally a good season. Just before retiring is a good time when it has not been taken during the day, especially to those who resort to indoor exercise. "Better late than never."

Its kind should also be such as to develop all the muscles. That same law of balance just illustrated requires that every muscle in the body should be exercised every day of our lives.

Yet some work too hard, so that their muscles rob their brains, and thus become stupid in mind, averse to study, drowsy over books, and blunted in their finer sensibilities. Such should work less—should perhaps restrain their craving for action, just as those who over-eat should restrain appetite.

Having enforced the necessity of muscular action in general, and also the necessity of proportion of function, and by consequence the double importance of exercise to those whose muscles have become enfeebled by inaction, we come next to the promotion of digestion.

The opinion has already been expressed that colds and indigestion were the great causes of the diseases of our climate, and also that most diseases

consist in disproportion of function. This is true both of colds and dyspepsia. Though dyspepsia itself rarely terminates life, it is the parent of many diseases that do. It fills the system with morbid matter unfit to take part in the vital process, and thus irritates and fevers both body and brain. How indigestion breeds corruption and disease has already been explained. The amount of corruption it produces is almost incredible. Take a single illustration. The breath of dyspeptics is always fœtid, because of the corruption thrown off through the lungs. Suppose yourself compelled to inhale all the odour or obnoxious matters in the breath of many a dyspeptic, it would soon sicken, if not destroy you. Yet you would inspire no more than they expire. How vast an amount of corruption and animal poison some breathe out every hour of their lives! But no more than their disordered stomachs manufacture. And all is not expelled. All the evacuations put together cannot unload it as fast as it is engendered, and hence it gathers on the lungs and brain in the form of phlegm, oppresses the lungs, irritates them, and engenders consumption, fevers, and all sorts of complaints. Dyspeptics expectorate most while suffering from indigestion, because the salivary glands are closely related to the stomach, and hence the mucus consequent on indigestion. Hence all bad-tasting phlegm should always be spit out, never swallowed, while sweet-tasted spittle should be swallowed.

But it is on the nervous system and brain that dyspepsia exerts its most deleterious influences. The corruption and rank poison it engenders cannot but lash up both nerves and brain to abnormal and therefore painful action. Dyspeptics always feel irresolute, gloomy, and wretched, in proportion as their disease is aggravated, however favourable for enjoyment all their external circumstances. I should disdain the fortune of an Astor if indigestion accompanied its reception. However wealthy, or respected, or beloved, or otherwise capacitated for enjoyment, dyspeptics are poor, miserable creatures—poor, because they cannot enjoy, however richly they may possess the bounties of nature; and miserable, because this disease turns even their facilities for happiness into occasions of pain. They would go mourning even in paradise. Brother dyspeptics, I pity you from my inmost soul. Twenty tedious years have I experienced its prostrating tortures; but I am gradually exchanging its sour grapes for the sweet fruits of restored digestion. Listen while I tell you how to extricate yourselves from its vassalage.

Whether your complaints are caused by indigestion may be known by certain signs. It generally emaciates. Those who are perpetually growing more and more thin favoured, and especially sinking in at the abdomen and cheeks, may know that this disease is approaching; as may also all who feel a gnawing, sunken, fainting, “gone” sensation at the stomach, or are unable to postpone their meals without inconvenience, or who feel a ravenous appetite and still continue to crave after they have eaten freely; or who feel prostrated, inefficient, misanthropic, or unusually irritable and fretful; or who belch up wind frequently—it being a gas formed on the stomach by the souring of their food. Dyspeptics are perpetually cramming, yet virtually starving, because their stomachs do not extract from food its nutrition, and, paradoxical as it may seem, the more they eat the more they starve.

Besides, being hollow-cheeked, and lank in the abdomen, they are generally costive. This is occasioned by the sluggishness of the stomach and bowels; and the removal of this single symptom or effect of this disease, will generally obviate the disease itself.

#### CONSTIPATION.

Its evils are quite as great as generally represented. It closes an important outlet for the waste matter of the system, which health requires to be kept open. And that not by medicines; for they excite only temporarily, and leave the bowels weaker than they found them, so that increased doses are required to re-open them. Never resort to any kind of medicine, not even rhubarb for a cure, but rely wholly on diet and motion. Many kinds of food

are highly aperient. Fruit always has this effect ; and thus opened, the bowels do not relax into increased lethargy. Coarse, undressed bread also is aperient. Many are obliged to eat it sparingly, because it is *too* opening. The bran stimulates the coats of the alimentary canal, besides increasing the fæcial bulk. Dyspeptics should always cat freely of it in conjunction with fruit. They may thus cure the most obdurate cases. Buttermilk is another powerful cathartic, and, used with bran bread, will be found efficacious. Rye and Indian-meal bread is quite as opening, and bread *all* rye is excellent. It is the more aperient, the more bran is left in. A pudding made by stirring undressed rye flour into boiling water, and eat with molasses, sugar, milk or fruit sauce, will be found most excellent. So will Indian-corn and oatmeal pudding, eaten with molasses or fruit sauce. Rhubarb sauce and rhubarb pies, if their crusts are made just right, are still more opening. So is cider *fresh from the press*, before it has fermented. In fact, the dietetic kingdom is full of aperient agents, endowed with quite as much power as cathartic medicines—agents which leave the bowels in a more healthy and active state ; whereas every dose of medicine ultimately weakens and binds. Whenever cathartics are needed, let them be taken in the shape of *food*.

INTESTINAL MOTION, whether effected by kneading the bowels, or by bodily exercise, helps to remove indigestion and constipation. A few years ago an infallible cure for dyspepsia was proffered on two conditions—strict secrecy and a high fee. It consisted simply in kneading the bowels and otherwise giving motion to them. For dyspeptics, exercise, and especially those kinds which call the abdominal muscles into play, will be found a cure. Fomentations applied to the bowels are excellent. So are cloths wrung out of water as hot as can be borne, and laid on them, and changed every half hour. Water injections, cold and warm, are still better—in fact, are infallible cures, if continued. Putting the thumbs across the hips, and extending the fingers forward and kneading the abdomen, is also useful, as are all forms of rubbing, kneading, and friction. Copious draughts of cold water on an empty stomach will help this complaint.

REGULARITY IN THE EVACUATIONS is scarcely less important than this whole subject of diet. Every individual, and particularly the costive, should see to it that the bowels move every day, and this can easily be secured by attending to this function at stated periods each day, as on rising, or after breakfast, or dinner, or supper ; the earlier the better. A little attention to the formation of regularity in this matter will effectually cure constipation, and do much towards restoring digestion. Mothers should lead children to form this habit in childhood, and all should practice it till it becomes second nature. Neglecting to attend to this call of nature, and to a kindred evacuation, occasions more disease and suffering than people imagine.

Dyspepsia is generally accompanied by acidity of the stomach, caused by that souring of the food in it already explained. This acidity can be removed. One means is by taking those kinds of food and chemical agents which will neutralize it. Alkalies will sometimes do this, yet they are better taken in saleratus bread, which is far better for dyspeptics than yeast bread. Oyster-shells, baked and powdered, are also highly recommended, and may be useful. That they often neutralize the acids of the stomach is evinced by the wind they bring up. But do they not leave a delcterious compound in its place ? Still they often do at least temporary good.

Some acids decompose other acids, and hence some stomachic acidities may be cured by taking the right kind of acids. The acids found in fruits are the best for this purpose. Hence lemon often improve the tone of the stomach ; and when they do so, they should be caten. Hence, also, lemonade is often a highly beneficial drink for dyspeptics, and should be drunk freely when it produces a comfortable feeling in the stomach. There are doubtless effectual antidotes in nature, and especially in food, exactly adapted to remove any species of stomachic disorder, by neutralizing or carrying off the noxious

compound. In fact, I fully believe that science will yet discover particular kinds of food which will effectually counteract all disordered states of the whole body. To illustrate. The rank poison, corrosive sublimate, if I mistake not, can be at once neutralized by eating soap freely, or swallowing any alkali in large quantities. The poisonous virus infused into the system by the bites of mad dogs and poisonous snakes can be effectually neutralized by taking certain chemical agents recently discovered, of which vinegar is one. Now I fully believe that mankind will yet discover some such antidote for every sort of morbid matter, obstruction, and disease incident to the body. Excess of carbon has already been shown to be one prolific cause of disease; and all diseases thus caused are easily obviated by taking little carbon into the system in the form of food, meanwhile introducing much oxygen in the form of breath to burn it out. Thus, suppose you have a bile or abscess, or fever sore; as the corrupt matter consists mainly of carbon, of course, by eating little, and eating those kinds of food which abound in fibrine, tissue, etc., yet contain little carbon, you reduce the supply of carbon, and if, meanwhile, you breathe copiously, so as to burn it up fast, you, of course, soon evacuate this surplus carbon, heal the abscesses, and restore the healthy action of the system. Undoubtedly, this principle might be applied effectually to the cure of consumption as it has been to the gravel. And I fully believe this principle of neutralization will soon be applied so as immediately and effectually to cure all sorts of disease and prolong life to twice its present period. I earnestly commend this point to the scientific researches of chemists and to the practical experiments of all.

Stomachic inflammation also accompanies indigestion, and causes those pains incident to dyspepsia. This can be easily reduced, and along with it those cravings of the appetite already shown to accompany dyspepsia.

You ask *how*? This brings up for consideration the drink of dyspeptics—its kind, time, and quantity.

Cold water is undoubtedly man's natural beverage. On this point we need not enlarge. Besides promoting health, its medicinal properties are great. It is one of those powerful neutralizers of the corrupt matter in the stomach, the virtues of which have just been shown. Have dyspeptics not often noticed copious eructations of gas soon after having drunk freely? The mineral substances of the water combined with and neutralised some of the obnoxious matter in the stomach, and hence the gas. Probably nothing equals water for reducing inflammation. Dip a burn into cold water and keep it there half an hour, and its inflammation and consequent smarting will subside. Immerse a cut, or bruise, or sprain, or fracture, or rheumatic joint, or any other form of inflammation into water, and both inflammation and pain will be diminished. For the virtues of water as an antidote of inflammation in all its forms, see the water cure. This fact admitted, its application to the cure of stomachic irritation follows. No medicine, no diet, no treatment equals its judicious application, externally and internally, to the stomach of dyspeptics. Its external application in the form of wet cloths laid on the stomach and covered with several thicknesses of flannel to keep in the heat, is most beneficial. Injections two or three times a day are even more so. But the DRINKING of cold water is the medicine for dyspeptics after all—drinking not by stint but by copious draughts.

Dyspeptics should not drink much till three or four hours after their meals—or, rather, till within an hour or two of the next meal, when they should drink freely till within an hour of meal time.

Copious drinking before breakfast of water fresh from the well or spring, accompanied by as vigorous exercise as the patient can bear, will be found especially serviceable. Drink freely again an hour before dinner, and an hour before supper, if you take any supper—or rather be content to drink instead of eating supper—and again on retiring. If lemonade agrees with you, drink

or that occasionally in place of water. Drink thus, and one month will greatly improve the tone of your stomach.

Add to this all the exercise you can well endure, relaxation from business, a light diet, thorough mastication, and slow eating, and you will in a year—probably in far less time—be well. Eat in the main those kinds of food which agree best with you, yet abstain from animal food, and live much on coarse unbolted flour, bread, and fruit.

Especially must dyspeptics EAT LITTLE. Without this there is no salvation for them. Full feeding will effectually counteract all remedial prescriptions—will even re-induce dyspepsia after it is cured, and of course aggravate it and prevent its cure. Make up your minds to STARVE IT OUT, or else to suffer all its miseries, and soon end your days. Abstinence is the great panacea. All else only aids, but does not reach its ROOT.

Another cure more effectual than any other, except fasting, requires to be distinctly brought forward. This is, *breathing* MORE. Nothing equals breath as a cure-all. Fresh air in large and perpetual doses is by far the most effectual specific for dyspeptics and consumptives that exists. The reason has already been given. In short, let dyspeptics follow the prescriptions of this work, as to the selection, mastication, quantity, and digestion of food, and those touching circulation, respiration, perspiration, sleep, exercise, etc., in addition to the other prescriptions given, and they will soon be cured.

#### PALPITATION OF THE HEART, AND LIVER COMPLAINTS.

Liver complaints and complaints of the heart are the twin sisters of dyspepsia, so that the prescriptions just given will cure them. The two specific directions for curing diseased liver, palpitation of the heart, etc., are, first, an abstemious, cooling diet, and abundance of fresh air. The blood is too thick and turgid, and hence lodges about the heart. The oxygen of breath thins it, so that it flows the more freely. All thus afflicted have noticed that just as they inspire air its beat is quickened and strengthened, but slackens as they expire—proof conclusive that more copious breathing will remove the difficulty. Such will also generally find their veins too blue, owing to a surplus of carbonic acid. Respiration alone can remove this from the system, and thus still farther thin the blood. Iron filings may aid.

Such will also always be found to have cold hands and feet, to be chilly, and to have frequent headaches—all because their heart is too feeble to propel the blood throughout the system. Whatever, therefore, promotes circulation will relieve the heart by leaving less blood collected in its veins, and remove the headache by withdrawing that surplus blood which occasions the congestion and consequent pain. Friction and the bath will do much to effect this. The foot-bath will also be serviceable.

#### CONSUMPTION—ITS CAUSE AND CURE.

Disorder of the stomach induces symptoms often supposed to indicate consumption. Thus a foul stomach loads the system with disease, which settles on the weakest organ, and this may happen to be the lungs. Hence, their oppression is often only sympathetic.

The lungs also evacuate much noxious matter from the system. Thus alcohol, being inimical to life, is taken up and ejected by the lungs, and hence we smell it in the breath of those who drink. They also eject other noxious matters. When, therefore, the stomach is foul, so that food decays it, and thus engenders a vast amount of corruption, and when the pores of the skin are partially closed, so as to prevent its escape through this channel, it returns with the blood to the lungs, and there gathers on them in the form of mucous or phlegm, irritates, occasions cough, soreness, and all the signs of consumption. Yet *dyspepsia* is the *primary* disease, though it often *ends* in consumption. Such may have consumptive symptoms many years, yet recover. They should follow the directions just prescribed for dyspeptics.



This principle applies equally to diseases of the head, nerves, muscles, and other parts of the body, which sometimes occasion consumptive symptoms and ultimately cause the disease itself. The cure consists in that of the primary disease.

But even when consumption has fastened on the lungs and formed abscesses, it is by no means always incurable—any more than the disease of any of the other organs. The great cause of failure is erroneous modes of TREATMENT, not the obstinacy of the disease. Tubercles form in other parts of the system as often as in the lungs—indeed, they are the general product or issue of all chronic diseases. They form in the liver, muscles, glands, stomach, heart, and even brain, and can be cured in all. Then why not in the lungs? They are the exudations of corrupt matter, generated in the lungs or elsewhere, and can be cured by arresting the progress of this corruption, and giving nature a chance to repair the breach. This is rarely attempted. Stop the generation of additional corruption, and the system will soon relieve itself of what exists. Frequent and copious SWEATING, by re-opening the pores and carrying off this corrupt matter, will be found the most efficacious means. Consumptive night sweats are nature's attempts at this, but the corruption generally accumulates faster than it is unloaded, and hence the disease progresses.

One of the principal generators of this corrupt matter is surplus carbon. As the patient's lungs are small, and their lining membrane partially clotted by phlegm, so as to obstruct the ingress of oxygen and the exit of carbonic acid, little carbon is burnt in the system, and a surplus is the consequence. Such persons should eat very little—almost starve—because they can burn up but little carbon.

But the *prevention* of consumption is ~~more~~ more important than its cure, and is more easy. The disease can always be kept at a distance, however predisposed the patient.

The small lungs and hearts of those predisposed to this disease render their circulation imperfect. To promote this should be the first end sought. Whatever, therefore, tends to retard the flow of blood, especially at the surface, such as sedentary pursuits, confinement within doors, particularly in heated rooms, habitual sewing, a cramped and forward posture, severe mental application, impure skin, sudden atmospheric changes, colds, and the like, should be carefully avoided. A light diet, fresh air, out-of-door pursuits, abundant sleep, vigorous exercise, warm climate, and free circulation, tend to prevent the disease. Keep the SKIN clean and active, and you are safe.

TIGHT LACING is most pernicious to those thus predisposed, because it cramps the lungs, prevents their inflation, inflames them, shuts out oxygen, the deficiency of which is the great cause of this disease, checks the action of the whole vital apparatus, prevents the supply of vitality, occasions adhesions, and in other ways induces this disease. No language can tell the number of premature deaths of both mothers and their offspring occasioned by this accursed practice. To girt up the vital organs is to commit virtual suicide.

Hot drinks, especially tea and coffee, are also injurious, because they increase the liability to take colds, and fever the nervous system, already too excitable. Drink warm drinks only when you wish to induce perspiration.

Exercise in the open air is also especially beneficial. Yet be very careful not to OVERDO—the great fault of consumptives, because their nerves are too active for their strength. Alternate REST and EXERCISE, with abundance of FRESH AIR are your best remedial agents. Doctor none, but INVIGORATE YOUR GENERAL HEALTH.

Added to general friction, let the chest be rubbed often, with the hand of a robust and healthy friend. Especially let mothers and nurses rub narrow-chested children much.

The full and frequent INFLATION OF THE LUNGS is especially advantageous. In this alone consist the virtues of Rammage's tube. Yet such inflation can be effected better without than with a tube. Sit or stand straight,

throw the arms back, and chest forward, and then draw in slowly as full a breath as possible, and hold it for some time, perhaps meanwhile gently striking the chest, so as to force the air down into the extremities of all the air-cells of the lungs, as well as enlarge the lungs. Reading aloud, speaking, singing, vocal training, and gymnastics—all right EXERCISE of the lungs—will strengthen them, and thus keep the disease at bay; yet care should be taken not to exercise them to EXHAUSTION. Cuvier cured a consumptive predisposition by lecturing, and so has the author. When he first began to lecture, his lungs were feeble and irritable, having twice laid him up for months; but they began to improve at once, and he can now endure almost incessant talking during the day, and two or three hours of public speaking every evening in the year.

Sea voyages are much recommended, and also southern climates. Both by promoting SURFACE circulation and perspiration, are eminently beneficial.

We conclude by giving directions for the regimen of

#### THE CHILDREN OF CONSUMPTIVE PARENTS.

Quinsey, sore throat, croup, inflammation on the lungs, and liability to colds, all spring from a consumptive predisposition, and can be cured by whatever prevents it. Besides the applying to such children the preventatives already prescribed for consumptive adults, let them not be sent to school too early, but allowed to run wild. Sitting in school is especially pernicious, partly because of the vitiated air of school-rooms, and because their small lungs make them naturally bend forward, and also warp inwardly, so as to retard all the vital functions. Folding the arms upon the chest is especially detrimental, because it impedes respiration. Fold them behind, if at all, so as to throw out the lungs. As the heads of all such children are too active for their bodies, you should neglect their mental culture, and make every effort to develop and fortify their physiology. They should do little else than EXERCISE, EAT, SLEEP, and GROW TILL TWENTY, and even then not to hurry to marry, or engage in business till fully matured. They require all their energies for growth. To divert their energies from the physiology to the mentality, is to increase that very cerebral ascendancy in which their consumptive tendency consists. They border on PRECOCITY, and require to be kept *from* study, instead of sent to school. Furnish boys with tools, instead of books, and encourage them in all kinds of athletic exercises, such as making and flying kites, sliding down hill, skating, swimming, riding, working, climbing, racing, shooting with bow and arrow—and above all talking loud and hallooing much, so as to expand their lungs. The more noisy the better for their health, and the more averse to study the less liable consumption. But let them live mainly on bread, milk, and fruit, and let them retire and rise early. Meat will injure them, because it still further stimulates them—the reverse of what they require—whereas milk soothes and quiets them. Let no fears be entertained that they will be dull scholars or ignorant men. Their brains are too active already, so that *without* schooling they will eclipse others. Nor put them early into law offices or stores, but LET THEM GROW FIRST. Especially, if they must go to college, do not let them begin to prepare till twenty. Rather let them work on the farm till fully matured. Nor ever put girls thus predisposed to any sedentary, confining, or sewing occupation, or to work in factories. Rather let them work in kitchens—anything that will improve health and prolong life. Perhaps few things invite consumption more than sitting and sewing steadily in warm rooms.

Especially important is it that such bathe. A consumptive patient was cured by being taken on winter mornings to Amboy Bay, and immersed in a hole cut through the ice. The colder the weather the more important the cold bath to such children, followed with brisk friction. Follow these directions and they will escape consumption and live to a good old age.

The *mental* signs of nervous disease, or of a deceased state of feeling, have already been pointed out.

This disease is more frequently sympathetic than primary. Dyspepsia is always accompanied by nervousness. So are heart affections, scrofula, gout, fevers, colds, and nearly all forms of disease. In fact, as the nerves run through every organ and portion of the body, they sympathize perfectly with the state of the body. Hence, whether nervous disorders are primary or sympathetic, the effectual means of curing them is to restore the tone and vigour of the system as a whole by obeying the laws of dietetics, circulation, respiration, sleep, bathing, friction, exercise and the like. The promotion of general health is the great means of restoring disordered nerves. Let nervous patients then strictly fulfil the conditions of health, if they would effect a cure. To a few items, however, special attention should be directed.

1. The importance of bathing, friction, and the healthy action of the skin is to such doubly enhanced, directions for which need not be repeated.

2. Those nervous subjects who are also dyspeptic need not expect to restore their nerves till they restore their stomachs. The corruption engendered by impaired digestion, is so great, as to keep even healthy nerves in a perpetual fever. This irritating cause must be removed before health can be restored.

3. Nervous people are particularly troubled with restlessness. Though perpetually worn out for want of rest, they can compose themselves to sleep only with difficulty, sleep lightly, are restless, disturbed by dreams, are easily wakened, and find great difficulty in getting to sleep again. Hence, such should sleep all they can. No cure for nervousness at all equals sleep; nor are eight or even nine hours a day too much for such. They sleep slowly when asleep, yet exhaust themselves rapidly while awake, and hence should devote the time more to this all-important function. Let such observe with especial assiduity the directions for promoting sleep already prescribed. To such, light suppers, or no suppers, and as much exercise as can well be borne, will be found especially important. Yet such hate to move till obliged to do so, and then they are perpetually liable to overdo—not to do too much absolutely, but to do too fast, so as to induce that trembling already pointed out as a sign of overdoing. If they would only exercise moderately, they might do a great deal more; but their nervousness renders them always in a great hurry; hence they exercise too violently. Such should work moderately till just comfortably tired, then rest awhile, perhaps lay down, and if possible take a nap; then return to work, and thus often alternate between action and rest. Day naps to the nervous will be found especially beneficial.

4. To the influence of grief, and all kinds of sadness, melancholy, and despondency, special attention is invited. See how many tolerably healthy mothers have become nervous immediately on the death of a dearly beloved friend or child, have declined rapidly, and soon after followed their lost one to a premature grave. Those at all predisposed to nervous disorder, who may lose friends, must banish grief, not indulge it. Shall their death hasten yours? If your grief could benefit them, you might indulge it; but since it injures you in the most effectual manner possible, without doing any good to them, practical wisdom dictates its banishment. Cultivate cheerfulness and even mirth.

5. Severe mental application is especially deleterious to nervous invalids. Their disorder consists mainly in predominant cerebral and nervous action, and their cure consists in restoring the requisite balance by reducing it. Those, then, whose occupation requires much mental application must give up their business or their happiness, if not lives. And why prosecute business at the sacrifice of life? Do you not pursue your avocation simply as a means of enjoyment? Then why not give it up when it conflicts with this only end of life? Besides, by suspending it till restored, how much more you will be enabled to do in the long run? So that mercy for the sake of accomplishing the very business you would do, you should postpone it temporarily.

What folly to sacrifice a lifetime of business to a few months, or even years ! Why kill the goose that lays the golden egg ? Cure your nerves first, and do your business afterwards.

A light, simple diet is quite as indispensable to the nervous as to the dyspeptic. Few things oppress the nerves more than over-eating, and few things relieve them more than abstemiousness.

6. A cooling diet is even more important. All condiments, all stimulants, act mainly upon the nerves, and re-excite, and still further disease them. Hence, all alcoholic drinks, wines, beer, cider, ale, or other fermented liquors, are fire to them, and should be wholly avoided. Tobacco is another powerful nervous irritant, and is fatal to nervous quiet. In common with opium, it exhilarates temporarily, only ultimately to result in fever and disorder. No higher proof of this is required than the feelings consequent on missing the usual indulgence. The more wretched you feel when deprived of your pipe, quid, or cigar, the more has it already impaired your nerves. Of which, however, more fully in a proposed work on this subject.

7. Tea and coffee have a similar effect. The stronger teas are rank poison, and black teas are also poisonous, though less so. Coffee is still worse. Its strong narcotic properties powerfully enhance nervous irritability, and will both create and aggravate nervous disorder. Susceptible as my nerves are, nothing would tempt me to fever them by tea, coffee, or alcohol, and all who do so sin against their own peace. Yet we will not follow up this subject here, but refer the reader to a forthcoming work, by the author, on their use. Meanwhile all are adjured to refrain from them.

8. An infusion of valerian is also good. Put a teaspoonful into a pint of water, and take half a wine-glass at night.

#### PREVENTATIVES OF INSANITY.

Of all the diseases incident to human nature, those which affect the *mind* are the most grievous and insupportable. Well may the heart of every philanthropist beat with its fullest and strongest pulsations of sympathy, in view of the anguish experienced by the raging, bewildered maniac ; and well may Government attempt the amelioration of those thus afflicted by erecting asylums for their comfort and cure. What practice is so barbarous, so absolutely horrible, as that of confining the maniac, perhaps in a dungeon, in chains, or the strait jacket, treating him as if he were a criminal, and perhaps scourging him besides. He is *sick*, not a *criminal*. To punish one who is dying of fever or consumption would be horrible ; to chastise a maniac is as bad.

The following prescriptions, faithfully adhered to, while they will greatly mitigate this disease after it is once seated, will, in most cases, if not in all, prevent its developing itself.

The *cause* of insanity, or rather insanity itself, consists in the excessive **EXCITABILITY** and **OVER-ACTION** of the **BRAIN** and **NERVOUS SYSTEM**. Its **prevention**, therefore, can be effected only by *reducing* this over-action.

Special attention is invited to one condition which always accompanies derangement, and which is a product of that very cerebral condition which causes madness, and that is superior natural abilities, accompanied with feelings the most intense and susceptible. And these are caused by that same exalted action of the brain by which derangement is caused. Consequently families and individuals predisposed to derangement are always eminently talented, and possessed of the best of feelings. It is the very flower of the community who are thus affected. In fact, this affliction is only the excess of what causes talent and sensibility. Do superior talents depend upon the powerful action of the brain ? So does insanity, only the cerebral action is still greater in insanity. As but a narrow line separates the sublime from the ridiculous, so but a step divides the highest order of talents from madness. A simpleton cannot be crazy. It requires a clever man to become deranged. Whoever is subject to insanity is "nobody's fool."

Hence, to prevent hereditary tendencies to insanity from developing themselves, it is necessary to prevent this constitutional excitability of the brain from progressing beyond the point of healthy action. And to do this it is requisite to divert the action from the brain to some other part, to remove exciting causes of cerebral action, and to keep the brain as quiescent as possible.

To illustrate. Your child is hereditarily predisposed to insanity. You will see this predisposition in his ecstasy of feeling when pleased, and in the overwhelming depth of his anguish when crossed; in the power and intensity of his desires; in his haste and eagerness about everything, and in his being precociously clever and acute. And here is the error. Parents generally try to increase this action by plying them with study, keeping them confined at school, and seeing how very clever they can make them. But the preventive of this tendency consists in pursuing directly the opposite course. This highly wrought cerebral action requires to be diminished. Study is directly calculated to increase it; so is confinement; but physical exercise is calculated to divert it from the brain to the muscles. Hence, no child or youth, either of whose parents is subject to derangement, should be sent to school. Nor should they, for the same reason, be vexed or plagued, or excited in any way, but should be allowed to run and play while children, to recreate and amuse themselves, and be happy during the period of youth, and they should not be allowed to enter upon the cares and business of life until fully matured, and even then they should check that boiling energy which courses through their veins.

Of all occupations, farming is the most suitable for them, as the labour it requires diverts the energies from the brain, and works off that excitement, the excess of which constitutes this malady. With nothing to do, this energy accumulates, and gathers upon the most susceptible part, the brain, and ends in derangement; but let the valves of labour be open for its escape, and health and sanity are preserved.

Above all, let them sleep much. Put them in bed early, and keep them from being excited in the evening. Young people thus predisposed should never attend balls or parties, or any exciting scenes in the evening, nor read novels. They should never play at cards, or at any other exciting games of chance, nor take alcoholic stimulants of any kind or degree, nor even wine, or cider, or beer. And they should scrupulously avoid tea and coffee, because all these tend to augment and develop that excessive cerebral action from which they are mainly in danger. Alcoholic drinks often induce derangement, even where there is no hereditary predisposition to it; much more will they develop a *latent* susceptibility already existing.

As those thus predisposed cannot be too temperate, so they are in no danger of being too abstemious. The simplest diet is the best. Milk is beneficial. Bread-stuffs will be found far preferable to meats. Indeed, meat should be wholly avoided, because it is a powerful stimulant. It heats and fevers the blood, oppresses the brain, and increases the tendency to be avoided. Bread, milk, Indian meal and rye puddings, vegetables, rice, fruit, and the like, should constitute the principal diet of those thus predisposed. Of course, from spices, mustards, peppers, pickles, vinegar, and condiments, they should wholly abstain. Only those things should be taken which open the system, and keep it cool. Fruit may be eaten in almost any quantity with advantage, and so may jellies.

Analogous to a cooling diet in its sedative influence is cold water, both washing and bathing. Cold water is certainly cooling, and as already explained is pre-eminently calculated to carry off the superabundant heat of the system, and obviate that feverish tendency which constitutes the predisposition to be avoided. Nothing will be found more beneficial to the insane than cold water applied externally, especially to the head, and taken internally in copious and frequent draughts.

But above all things, let all thus predisposed avoid those subjects on which their relatives and ancestors were deranged. Thus one of the topics of derangement appertaining to the family of a young man who hung himself in the summer of 1842, on account of his having been disappointed in a love matter, was the social affections. He should have known this, and, therefore, have nipped his affections in the bud, unless he was sure of their being reciprocated, and consummated by marriage. In short, he should never have allowed his affections to become engaged till he was sure of marriage—a direction suitable for most young people, but doubly for those thus predisposed, because love is always a very exciting thing. Still unless such are able to govern their love they should locate their affections, though they should not be in haste to marry. A partner having a cool, soothing, temperament should be chosen.

These and all other preventatives and cures of insanity, apply equally to the prevention and cure of nervous diseases generally. To cure nervous and cerebral disorder, RESTORE THE GENERAL HEALTH.

#### THE WATER CURE.

That the author sets a high value upon the water cure, as a remedial agent, this entire work bears abundant evidence. Its power and efficacy probably exceed all other medicinal means now known. Of the wonderful healing virtues of water, its oxygen—of which it contains a large proportion—is probably the chief instrumentality—the various organs imbibing from it this great promoter of universal life. Scarcely less powerful for good is its efficiency and unequalled capability for removing obstructions—for taking up and carrying out of the system those noxious matters which obstruct the functions of life, breeds disease, and hasten death. For reducing inflammations, and consequent pain, it has no equal. It is also an efficient promoter of normal action—of universal life. For reviving debilitated, withered organs, for rebuilding broken constitutions, for cleansing the stomach, bracing the system, and infusing new life throughout all its borders, water excels all other agents combined. It is destined to supplant medicines and the lancet. No family, no individual, should be without a knowledge of the best modes of applying it in all sorts and stages of debility and disorder.

Other diseases, such as gout, serofula, and the like, it is not necessary to notice, because the great prevention, the great cure, is A STRICT OBSERVANCE OF THE LAWS OF HEALTH.

#### CONCLUSION.

Finally, let old and young, one and all, take every possible pains to PRESERVE AND IMPROVE HEALTH. Behold the infinite perfection of our bodies! Behold the variety and power of their functions! Consider their capabilities of enjoyment! O who can contemplate this highest piece of divine mechanism without wonder and gratitude. And was SUCH a structure made to be abused? Shall we undo all that God has done to secure the invaluable blessings of health and happiness? Shall we impair, vitiate, or break down functions thus inimitably perfect, and thus laden with all the enjoyments of life? Shall we nurture our land and our trees, and neglect our own bodies? Shall we not love and keep a present thus divine, as well on account of its own intrinsic worth as its Bountiful Giver? Shall we love earthly donors for their gifts, and not worship the Author of that life which is so infinitely above all other bestowments? Let others do as they list, but let my great concern be to guard this heavenly gift. This, my sacred duty, my paramount obligation to God and my own soul, let me study to fulfil. O thou Bestower of all good, give me intellect to know, and the inflexible determination to practice, THE LAWS OF HEALTH AND LIFE.

# MEMORY

AND

# INTELLECTUAL IMPROVEMENT

APPLIED TO

## SELF-EDUCATION AND JUVENILE INSTRUCTION.

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### CLASSIFICATION AND FUNCTIONS OF THE INTELLECTUAL FACULTIES.

#### MAN'S SUPERIORITY.

Man is the noblest terrestrial work of God!—the veritable 'LORD OF CREATION.'

But in what does his superiority consist? In his PHYSICAL perfection? In his possessing a greater number and variety of bodily organs and functions, and those more perfect than the rest of creation? In his erectness of stature? In his muscular sprightliness and power? In even the greater intensity and more perfect play of his FEELINGS? In his domestic affections, or his defending, arguing, aspiring, constructing, persevering, and other kindred elements? No; in neither one separately, nor in all combined. Nor even in his undying MORAL AND RELIGIOUS susceptibilities, his capability of worshipping God, and his perception of right and wrong; nor yet in his self-sacrificing kindness, nor in his moral purity; but in his possessing INTELLECT. Not that he does not possess all these and many other gifts and graces: nor that they do not confer dignity and glory on his nature; but that intellect, especially REASON, man's noblest power, is indispensable to guide and crown them all! Even his moral elements, unguided by intellect, are blind. We praise Thee, O bountiful God, for all Thy wonderful works unto the children of men! But we love Thee most for bestowing these intellectual capabilities which enable us to perceive and apply those glorious LAWS which govern nature in all her loveliness, variety, perfection, and greatness. Not that the moral elements, which ally us to angels and to God, and even confer immortality itself, are inferior to intellect. Enlightened and directed by intellect, they are its *superiors*, yet reason is as indispensable to their perfection as eyes to the physical man. Not thus guided, they are blind leaders of propensity, and as much more sinful, and therefore painful, than mere propensity can become, as their nature exceeds in value; because the greater any gift, the greater the curse consequent on its perversion. The perversion of no other faculty equally corrupts, degrades, and pains. On this stock of religion with propensity, but without intellectual guidance, grew all the heathen mythology and abominations of past ages; grow all the idolatry of paganism, and all the bigotry, sectarianism, and errors of Christendom. Though intellect without morality is despicable—and the more despicable the more powerful—though each is indispensable to the perfection of the other, yet intellect is the *constitutional* guide of the entire being. The man of impulse is a man of misfortune and suffering. Propensity is blind, and blindly seeks pleasure in sin, which ends in sorrow, and hence requires INTELLECT to conduct it to its legitimate objects, and to rule it in accordance with the laws of happiness. Intellect can incalculably augment all our feelings, desires, and pleasures, as well as multiply a hundred-fold every enjoyment and attainment, whether domestic, agricultural, mechani-

cal. protective, accumulative, honourable, or even moral. Man requires intellect most of all to perceive and apply SCIENCE AND LAW to health, government, religious belief and practice, happiness and immortality !

Yet in what is he equally deficient? His absolute knowledge is exceedingly limited. He expends but little time, or money, or care,—not a hundredth part of either—on intellect proper, on science, philosophy, and the study of nature ; but nearly all his time, desires, efforts, everything on his FEELINGS. Men run in crowds to see trifling shows and comic exhibitions, yet 'pass by on the other side' of scientific lectures, and works, and subjects ; or if they read, select trashy novels, instead of instructive works ; the penalty of which is the superstition, ignorance, and degradation of the masses, the religious bigotry and imperfections of the many, and the erroneous opinions, evil practices, and physical sufferings of all, and even the premature death of suckling infancy and mature manhood ! Nor can the untold miseries which now scourge mankind be obviated, or even essentially diminished, till INTELLECT ascends the throne, guides opinion, and governs desire and conduct.

INTELLECTUAL energy and CULTURE, therefore, are the highest objects of human attention. Place a cultivated intellect, fully instructed in the laws of his being and the conditions and means of happiness, at the head of high moral sentiments, and these two at the head of his nature, and you thereby banish ignorance, close grog-shops, gambling-saloons, and dens of infamy, suppress vice, and almost annihilate depravity ; because those who know what is sinful, and that all sin induces suffering, will generally avoid sin in order to escape suffering. Place intellect on the throne, and you thereby banish paganism with all its atrocities, sectarianism with all its bigoted intolerance, and disease with all its wretchedness, as well as purify and sweeten every virtue, vastly augment every human element and capability, and crown humanity with its very climax of perfection and enjoyment !

And then, again, how surpassingly rich and delightful are the treasures of knowledge and the study of nature ! Man is so constituted, that to study the laws and operations of nature—to witness chemical, philosophical, and other experiments ; to explore the bowels of the earth, and examine the curiosities, beauties, and wonders of its surface ; to learn lessons of infinite power and wisdom as taught by astronomy ; and most of all, to study living nature, and mark its contrivances and adaptations ; in short, to study nature in all her beauty and perfection, particularly as unfolding perpetually the infinite wisdom and goodness of the great Creator of all things—constitutes the highest possible source of human happiness, besides teaching us how to attain this 'chief end' of our creation. Nor are the internal pleasures of thought and the consciousness of having ascertained truth less pleasurable. In short, 'knowledge is power,' power both to be ourselves happy and to make others happy !

#### USES AND VALUE OF A RETENTIVE MEMORY.

To descant upon the utility and value of memory is well nigh superfluous. Would not the rich gladly give their all, the necessaries of life alone excepted, to be able to recall at pleasure everything they have seen, heard, or known worthy of remembrance ? What would not lawyers, physicians, and scholars give for the power to recall fully every point of evidence and law, every occurrence in their practice, every fact and principle they have read ? To business men a retentive memory is exceedingly serviceable. And how much more powerful and effective that speaker who can dispense with notes, yet say all he wishes, as well as recall to mind thoughts and arguments previously prepared ! How often have readers been mortified, and almost angered with themselves, for having forgotten something they intended to have said or done ! And how great the consequent inconvenience, delay, and loss, all of which a good memory would have prevented ! How many even forget almost as fast as they learn ! In short, in what occupation and relation of life is not a retentive memory most useful ! In many it is indispensable.



Memory recalls past occurrences, doings, acquisitions of knowledge, etc. It is not, however, a single faculty, else men could remember everything past equally well, which is not the case; but every intellectual faculty recollects its own past functions. Thus, Locality remembers places, Form shape, Eventuality events and actions in general, Causality ideas and principles; and thus of all the other intellectual powers. Hence, there are as many different kinds of memory as there are intellectual faculties; the greater energy of some of which, and the feebleness of others, both in the same head and in different persons, cause and account for the fact that some can remember faces, yet forget names; while others remember places, almost by intuition, yet forget items. This diversity in the memories of men entirely precludes the idea that memory is a single faculty. But there being as many different kinds of memory as there are intellectual organs, the retentiveness of each of which increases and decreases with the energy of its organ, of course he who has Causality large and Language small easily remembers the substance, but forgets the words; while he who has Causality small and Language large forgets ideas, but remembers words; and thus of the different degrees of strength in all the other intellectual faculties. Hence the full development and vigorous action of all the intellectual powers give a retentive memory of everything. Nor can a retentive memory of everything be secured by any other means. The cultivation of the memory, therefore, and the discipline of the mind amount to one and the same thing, and are to be effected by the same instrumentalities. To strengthen the memory is to augment the intellectual capability, because both consist in enhancing the intellectual energies.

Memory, in common with every other mental faculty and physical function, can be strengthened to a degree almost incredible. Its organs are governed by that same law of increase by exercise which governs all our animal and mental powers. That law applies to intellectual improvement with increased force, in all its ramifications.

#### STRENGTHENING THE INTELLECTUAL POWERS BY INVIGORATING THE BRAIN.

Do parents, teachers—do the young—do all inquire by what *means* intellect can be expanded and memory strengthened? Phrenology and Physiology answer: By increasing the power and activity of the intellectual organs. The brain being the organ of the mind, all mental improvement must of necessity increase cerebral energy, and all intellectual advancement must be dependent on an increase of power and activity in the intellectual lobe. But whatever *weakens* this lobe, of course weakens intellect. This inference is the necessary consequence of the brain being the organ of the mind, which renders the conditions of both perfectly reciprocal. Mental discipline, therefore, consists in the vigorous and active state of the intellectual *organs*. His mind is best disciplined, whose brain can be brought at will into the most vigorous and powerful action; and since the vigour and improvement of the memory consist in precisely the same cerebral conditions, it can also be strengthened by the same instrumentality, but by no other. This universal law founded on the brain being the organ of the mind, tells all who would improve either memory or intellect, that their only means of securing this most glorious result is to augment the activity and efficiency of their cerebral organs of memory and intellect; and that whatever enfeebles the latter, necessarily weakens the former. Cerebral improvement alone can enhance mental power. Nor can educational facilities strengthen the memory except by increasing cerebral vigour.

#### STRENGTHENING INTELLECT BY PRESERVING HEALTH.

Since memory and intellect can be improved only by augmenting the energy of the intellectual lobe, and since the cerebral conditions are reciprocal with the physiological, the first means of strengthening both is to promote physical energy by invigorating the health; directions for effecting which are given

elsewhere. Hundreds might be specified whose memories have been impaired by sickness or by a decline of health, but restored on its return. A Frenchman, from Mexico, unable to recollect the name of a former schoolmate, who was physician to the king of France, said that ever since he came near being suffocated from sleeping in a close room filled with carbonic acid gas evolved by charcoal burnt in it, his memory had been poor, though excellent before.

Nervous diseases always impair the memory, because they enfeeble the brain. Many readers are living witnesses of a concomitant decline of both health and memory. If asked for the first and best known means of strengthening both intellect and memory, it would be, "Invigorate the brain by improving the health." But the reader is referred to volume one on Physiology, both for the truth of this vitally important doctrine, and for directions by which health may be improved, and cerebral and mental energy thereby augmented, to the illustration of which that volume is devoted.

#### STRENGTHENING INTELLECT AND MEMORY BY THEIR EXERCISE.

The only other means of increasing the power and activity of the intellectual organs, and of course of disciplining the mind, improving the memory, and augmenting the intellect and capabilities, is by their exercise. Brain cannot be bought. Excepting those hereditary influences which give to some a better intellectual organization by constitution than to others, no subsequent improvement can be effected by high or low, rich or poor, but by the exercise of the intellectual powers, excepting that increase effected by improving health. This great law puts all upon a par, only that some enjoy greater facilities for intellectual exercise than others. The means and mode to be employed by both are the same.

Facilities may promote this exercise, yet are by no means indispensable to it. The poorest labourer, even the most abject slave, can think and remember *while at his work*. The sons of the rich, whose facilities are greatest, attain far less mental discipline than those who, though enjoying fewer facilities, make a better use of what they have. All of us, be we ever so poor, without books or teachers, can exercise our minds, and thus increase their efficiency—can strengthen memory by recalling the past, though it be simply our own experience, and thus cause the blood to flow to the organ exercised, and thus cultivate intellect.

The fact that the exercise of any mental faculty proportionally augments both the volume and efficiency of its organ, and thereby strengthens the faculty exercised, was demonstrated in volume two, in which this great law was applied to the improvement of the feelings. The means of exercising the faculties, namely, by presenting their appropriate food or objects, was also shown. Thus, presenting things to Individuality, spontaneously excites its inspecting action. Laws and causes brought to the cognizance of Causality excite it to spontaneous action. Events spontaneously excite Eventuality; and thus of each of the intellectual faculties.

Whenever its appropriate object or natural stimulus is presented to any faculty, spontaneous action ensues, and enlargement and improvement are necessary consequences.

#### SPONTANEOUS AND FORCED ACTION CONTRASTED.

Special stress has been laid on this *spontaneous* action of the faculties—that effected by the presentation of their natural *stimuli*, or by that to which they are adapted, because this action alone augments their power. *Forced* action is *no* action. As a boy flogged to school will not study when there, so studying as it were by force, when no interest is taken in it, but when such study is irksome, exercises the organs but little, and therefore improves their faculties as little. Normal mental action is always pleasurable, and beneficial because pleasurable; that is, because the function is in harmony with its primitive design. Rendering study agreeable incalculably augments both the conse-

quent intellectual and cerebral action, and this proportionally benefits. This is the grand main-spring of intellectual improvement. The scholar who dislikes his teacher learns but little, and improves his mind as little, because that teacher does not induce this required spontaneous action, which another teacher whom he likes excites, and thus benefits him by leading him to study. If this be true of teachers, how much more of studies. Those who love their studies will exercise, and thus discipline their minds ten times as fast as those who, though equally capable, dislike them; because love of study occasions this spontaneous action which improves both organ and faculty, while dislike does not. This point is all-essential and fundamental. Let it be noted and fulfilled by all who would improve either their own minds or those of others, especially of children.

#### UNDERSTANDING THE LAWS OF MIND FACILITATES ITS CULTURE.

To be successful, education must be conducted in harmony with the *nature and laws* of mind, and adapted to its primary faculties and constitution. As well attempt to navigate the ocean without the compass—to study astronomy without the telescope, as to undertake to educate the young, or even discipline our own minds, without first knowing both the precise office of the intellectual faculties, and how to stimulate them. These, few parents or teachers even pretend to understand, and hence their waste both in time and money. Sufficient pains are taken and labour expended in educating youth to give them a general knowledge of Nature's laws and operations, yet this is rarely imparted or even attempted. Very few teachers understand even the first lessons of either the laws of mind, or how the mind can be strengthened. Phrenology, however, beautifully and clearly unfolds them, and thus furnishes the only successful guide to intellectual culture. In analyzing the intellectual faculties, it shows *what will stimulate* and thus invigorate them; that is how to Strengthen Memory and Augment Intellectual Capability. This analysis and means of exciting intellectual action, we shall endeavour to expound and enforce in this work. Its mental philosophy will exceed the darkness of metaphysicians as much as daylight exceeds midnight; not on account of the ability of the author, but because it puts the finger of certain science upon all the intellectual powers, and, by pointing out their adaptation, shows how to promote their action by presenting their constitutional stimuli. It will thus show how to discipline mind, improve all kinds of Memory, strengthen and expand the intellectual, acquire and retain knowledge, and conduct the intellectual education of children and youth—objects of the highest possible moment to all, but especially to parents, teachers, and the young.

#### THE FIRST AND SECOND STEPS.

The first thing to be done by way of achieving this greatest of improvements, is to obtain a correct knowledge of our own or our children's intellectual developments. This will show what faculties are weakest, and therefore require more especial cultivation. This knowledge may be gained either by the study of this science, or by applying professionally to those who understand it; but the knowledge itself is essential. Next, a precise idea of the FUNCTION of the faculties to be improved is indispensable, and also of that to which they are severally adapted; this is, what, brought before them, will excite them to the required spontaneous action.

#### LOCATION OF THE INTELLECTUAL LOBE.

The organs of the intellectual faculties occupy the forehead. The best rule for ascertaining the amount of brain occupied by the intellectual lobe is this. Erect a perpendicular line, from the most prominent portion of the zygomatic arch—that horizontal bone which commences just in front of the ears, and runs forwards towards the eyes—and the amount of brain forward of this line will measure the size of the lobe.

Nature has classified and arranged these intellectual organs into three distinct ranges or groups, the full development of each of which confers particular talents and intellectual capabilities.

#### LOCATION OF THE PHYSICO-PEROEPTIVE GROUP.

The first range is the physico-perceptive, located over the eyes. In shape they are usually long, and run from near where the optic nerve enters the brain, forward, over the eyes to the skull beneath the eyebrows.

Their development pushes out the skull beneath the eyebrows, and thus renders the arch over the eyes, as well as their sockets, large, arching, and projecting anteriorly. They may be large, yet not project far over the eye, because Language may be also large; or, Language may be small and the eyes therefore sunken, so that these organs may appear to be more fully developed than they really are; yet their projection *beyond the cheek bone* will measure their power. The larger they are, also, the longer and more arching the eyebrows, while their deficiency leaves them short and nearly horizontal, as in the engraving of Melancthon, in whom they are small. They are immensely developed in the engraving of Herschel, whose extraordinary astronomical talent depended mainly on the power of these faculties. As, however, their full development renders the whole of the eyebrows arched, so when some are large and others small, the eyebrows will be arched over those organs that are large, but run horizontally over those that are small. Hence, a close observer can ascertain their size without the aid of touch—thus obviating one of the greatest difficulties heretofore experienced in correctly observing this size.

#### FUNCTION OF THE PHYSICO-PERCEPTIVE FACULTIES.

These faculties adapt man to the *material* world. They give knowledge and judgment of the physical qualities and properties of matter, and of its adaptations or fitness for particular uses; as well as perceive how to operate on it, so as to effect desired objects.

Their combinations, however, determine their more specific directions. When very large, and combined with the physical temperament and Acquisitiveness predominant, they decide correctly upon the value of lands, stocks, merchandise, and all kinds of property. All those who have amassed immense wealth by an intuitive perception of the value of property, and what kinds will *pay* best, are enabled to do this by means of the ample development of this group. With it small, no one could become rich, unless he did so mechanically, or by means of ample Causality. Combined with large Constructiveness, they give intuitive judgment of machinery, contracts, inventions, and all kinds of work, as well as greatly facilitate their execution. This combination occurs in the celebrated inventor, E. B. Bigelow, of Lowell, who contrived carpet looms, and has made many other inventions. They are also amply developed in Fulton, Whitney, and great engineers and inventors generally. Most mechanical improvements are effected by means of that sagacity in managing matter which they confer.

Architecture and the arts also require their full development, combined with Ideality and the mental temperament, both of which predominate in the engraving of Michael Angelo, whose talents furnish so excellent a sample of the capabilities they bestow, aided by his large reflective faculties.

Combined with a strong and active temperament, they delight and excel in *natural science*; see and survey nature and her operations, and confer a talent for acquiring *certain scientific* knowledge in contradistinction from literature. They are very large in Cuvier, Buffon, Eaton, Day, Hitchcock, Silliman, and all those similarly capacitated for observing nature, though true scientific excellence also requires strong reasoning powers.

#### LOCATION, FUNCTION, AND ANALYSIS OF THE MIDDLE RANGE.

The middle or next higher range of organs fill out the middle of the forehead, as in Pitt, but when deficient leave a horizontal depression though its central portion, greater or less in proportion to this deficiency, as in Moore.

They impart a fact-acquiring cast of mind, readily learn a new business, give scholarship and a knowing mind, and ability easily to acquire and apply knowledge; and with large Language, successfully prosecute the acquisition of history, chronology, belles-letters, and general literature. Those in whom it is deficient cannot exhibit half they know; show off to poor advantage, having more in them than they can well get out.

#### LOCATION OF THE REFLECTIVE ORGANS.

The reasoning organs occupy the upper portion of the forehead, which they fill out and widen more and more the larger they are. When very large, with smaller perceptives, they give a high and wide or towering, overhanging form of forehead, and cause its upper portion to project beyond the perceptives, as in the engravings of Franklin and Melancthon. Those high, wide, square, bold, prominent foreheads, as well as their consequent square and straight form of face, indicate predominant reflectives. Yet small perceptives, by causing the lower portion of the forehead to retire, render these organs more conspicuous and apparently larger than they really are, yet leave the intellectual lobe apparently smaller and faculties weaker than if the perceptives were larger, which would render the forehead more retiring. Hence, the forehead may retreat when the reflectives are large, because the perceptives may be still larger. A sloping forehead shows, however, that the reflectives do not predominate over the perceptives.

#### FUNCTION OF THE REFLECTIVE FACULTIES.

This group takes cognizance of laws, and investigates *first principles*. It thinks, reasons, searches out the relations of cause and effect, originates ideas, investigates, analyzes, and contrives, adapts ways and means to ends, creates resources, and accomplishes much with scanty means; though adapting physical means to ends requires aid from perceptive intellect. Reasoning intellect directs, while the other faculties execute. It imparts health and strength to intellect, soundness and scope to the understanding, and originality and power to ideas and conceptions. It is less likely to manifest its power, than the other intellectual groups, which impart more smartness, aptness, brilliancy, &c., but give less might of intellect. Such may have strong minds and philosophical penetration, yet often pass through life like a lion in a cage, unconscious of their latent powers; yet on great occasions, and if in responsible or difficult situations, they will be adequate to any emergency, and become the natural leaders of those whose perceptives prevail. To true greatness these faculties are indispensable. They hold a higher place in the mind, just as their organs do in the head. They constitutionally impress and control, not only the other faculties of their possessor, but also motive, feeling, and mind in general. They are the constitutional kings of mind and conduct. They retire in Burrirt's head and equally in his character. Hence, Franklin's reasoning powers have impressed the great mass of civilized mind, and will continue to exert a controlling influence for ages to come. Burrirt astonishes and delights, but Franklin and Webster impress. Burrirt will die while he lives, but reasoning intellect lives in and guides other minds long after its author has left the stage of action.

We proceed next to ascertain the Function and Means of Improving the Intellectual Faculties.

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## INDIVIDUALITY.

### DEFINITION AND LOCATION.

OBSERVATIONS: cognizances of Identity, of Personality, of Individuality of bodies: power and desire to inspect individual things as isolated existences. curiosity to See and Examine.

Located just above the root of the nose. When large it causes a proportionate jutting of the lower portion of the forehead over the upper portion of the nose. It is immensely developed in Elihu Burritt, the learned blacksmith of Woreester, Massachusetts. The author has never seen, and probably no man living possesses, Individuality equally developed. It causes the eyebrows to arch at their inner termination more and more in proportion to its size, but when it is small they come nearer together, and run toward each other as they terminate inwardly. It is small in Pitt, but large in Moore.

#### ADAPTATION AND PRIMITIVE FUNCTION.

The material world is composed of individual objects innumerable. Who can count the sands on the sea-shore, the leaves and twigs of the forest, or the component particles of matter? To this property of matter the mental power is adapted. It thus puts man in relation and contact with a world full of things for his inspection, as well as excites in him an insatiable desire to examine everything. It is therefore the Looking faculty. Its distinctive office is to observe things. It asks, 'What is this?' and says, 'Show me that.' It has discovered many useful improvements in the arts and sciences, Phrenology among the rest. It constitutes that door through which the cognizance of external objects enter the mind. Before it can know the uses, properties, causes, etc., of things, we must first know that such things exist, and of this Individuality informs us. The first impression the mind can have of any person or thing, is of its independent existence. The more things one observes, the more material is furnished for memory to treasure up, reason to investigate, and all the other faculties to work upon.

Those in whom this organ is largely developed, are perpetual lookers. Nothing escapes their scrutinizing glances. Passing up a crowded street, they look in at the windows, or read the signs, and often look back to see something they have passed, or that has passed them. In reading, they prefer picture books. They want to see the inside of things, and scrutinise all that comes within their range of vision. Such might be called inveterate lookers. But those in whom this organ is small, see few things around them, and these mainly to feed the other faculties. They may keep their eyes open, yet use them but little.

#### IMPORTANCE OF CULTIVATING OBSERVATION.

In the light of this office of Individuality, how important does the cultivation of observation become! Those who pass unnoticed most of what exists or transpires around them, little realise how much valuable information, how many texts for thought, how many valuable lessons and suggestions they lose, which quick observation would note, and thus furnish feasts for all the other faculties; thereby greatly increasing all the powers of the mind, and all the enjoyments of life, besides all the pleasures of observation itself. Open then your eyes upon all nature, and keep them open.

Nature has taken the utmost possible pains to promote observation. She has literally crowded air, earth, and water with every conceivable variety of curiosities, the examination of all of which, besides being intensely interesting, discloses a perpetual round of instruction. The universe is full of beautiful and wonderful works, scattered lavishly all around. Yet how few know they exist. Men trample their living teachers perpetually under foot, in their foolish and wicked seramble after mammon and vanities. Would that the scales might fall from human eyes, so that they could behold the exhaustless treasures of knowledge and wisdom prepared for them! O, when will men learn to love and examine God's works!

#### IMPRESSIONS RECEIVED FROM OBSERVATIONS INDELIBLE.

So constituted is the human mind, that whatever is SEEN is rivetted on the mind for ever. *Description* fails to impress, but *observation* fastens what it

sees on the mind—BRANDING, as it were, it into its very texture. Thus, one minute's ocular inspection of anything—say the human skull—makes and leaves an impression incalculably more vivid and retentive than words or books, or years of description, could possibly effect. A law of mind requires things to be shown, and insists on observation. Both children and adults can be taught mechanics, natural science, anatomy, phrenology—any species of knowledge—a hundred times more speedily and effectually by observation than by any other means. The human mind easily remembers how things appeared, and thus readily recalls whatever is associated with these appearances. Man was *made to see*, and effectually to progress in knowledge and mental attainments must see. Hence, when he cannot see the thing itself, his fondness for pictures of it. Fill a book with pictures, no matter of what, and you will sell it whether it, contains anything else or not. Much more when pictures are turned to an intellectual or moral account. Pictorial bibles and histories, and books and newspapers, and everything else of the kind, men seize with such avidity. A single picture often conveys more than volumes, and wholly by means of this *seeing* law of mind now under consideration.

#### ITS CULTIVATION IN OURSELVES.

Since this faculty lies at the basis of all intellectual superstructure, by furnishing the other faculties with the stock of raw material for them to work up into their respective operations its cultivation becomes all important, being in fact the first and most important step to be taken towards improving mind. In order that men may recollect, Individuality must first observe. Before the Reflectives can think or investigate, this faculty must furnish them the required materials: and, other things being equal, the more vigorous its action the more powerful and efficient theirs. How, then, can it be cultivated? By exercising it in observing, by opening your eyes and keeping them open—not the physical eyes merely, but the mental ones also. Nature has beautifully and amply provided for this. Indeed, to keep your eyes closed when awake is difficult. We cannot well help either keeping our eyes open, or having them rest on some object. To look is as natural as to breathe.

But the great error is this, men *look*, yet few see half they look at. In other words, men often perform the *physical* part of seeing, without the *mental*—often direct their *eyes* at persons and things, without exercising *Individuality*. How many of us have passed along a street, or been at places ninety-nine times, without seeing something, always there, which we saw the hundredth time. Our eyes, too, have rested on it, yet we have not noticed it. Or even if we have, we barely observed its existence, whereas many curious things about it escaped cognizance. Less active Individuality may barely see a given person, yet not notice what is said or done by him, or observe his peculiarities, while active Individuality, with precisely the same facilities for observing, will notice twenty, perhaps fifty things about the person unseen by the other, and of course know proportionally more concerning him. Not that you should stare every one full in the face, as if you never saw any human being before, but that you should *notice* as far as you do look. Italians, Spaniards, French, &c., have a way of scrutinizing most minutely, so that nothing escapes their view, without gazing at you, or even appearing to notice anything particular, even your blunders. Others again are for ever gazing and sauntering, yet notice very little. Our distinction is perceptible.

#### STUDYING HUMAN NATURE.

Especially observe MAN—the most interesting object on earth! When on a steam-boat, or mingling among the throng, you need not keep your eyes shut for fear of being impertinent. You are even compelled to look about you, and those around you expect to be observed. Now this is the point. Notice all you look at. Not only observe that such a person is in such a place, but mark his

motions and manner of carrying himself, especially his head. Notice his physiognomy, and read him all through by those signs of character which all are compelled perpetually to manifest. If they speak to you or in your hearing, for men can observe with their ears as well as eyes, note closely their *intonations*. These, at times, will disclose more of their character than even their words. Mark the various expressions of their eyes and mouth, &c., in fact, all they say, do, and manifest. Observe thus, not one person, but all you see. Human beings throng around us perpetually. They are thrust continually upon our cognizance, and each of them is all the time exhibiting, is compelled to manifest, more or less of his character. These we can note, and 'from a little learn what a good deal means.' We can thus be perpetually learning something new of human nature, that most comprehensive of all studies. All other studies are trifles compared with this, both in vastness and interest. Its facilities are commensurate with its greatness and utility. We hardly know the alphabet of human nature at present, whereas we might read it through. To do this we need observation mainly. True, the action of other faculties is required in order to carry out these observations to their results—that is, to draw inferences from these signs of character; yet we cannot draw the inferences till we have first made the observations.

Thousands of other natural things, besides human beings, are thrust upon our cognizance wherever we go, all worthy of observation and full of instruction. When we have humanity to observe, let this take precedence; but when we have *not*, or can notice other things without *preventing* the observation of 'men and manners,' let us by all means improve every proffered opportunity to store our minds with the *knowledge of things* which this observation is intended to furnish.

#### STUDY OF PHRENOLOGY.

The study of all the sciences—that of Phrenology especially—improves Individuality. All who have given much attention to this subject will bear testimony to its having increased their observing power. Even in church, when you would fain exercise your religious feelings, before you were aware, you found yourself intently inspecting this head and that and the other; nor were you satisfied without closely scrutinizing the developments of all you saw. It is not probably too much to say, that of all other promotives of observation Phrenology is altogether the most effectual. Its observations so thoroughly interest as to create a *seeing mania* which scrutinizes everybody and everything. And the more you learn of it, the more it promotes still further observation.

#### OBSERVATION THE GREAT INSTRUCTOR OF CHILDREN.

If this be true of adult, how much more of *juvenile* minds? Indeed, the order in which infantile intellectuality is developed begins with Individuality. The infant first looks and then remembers what he has seen, and this excites intellect to draw inferences. When only a few hours old, it gazes around on things, as if saying, 'Really, how many things there are.' A few months afterwards this curiosity to see, handle, pull to pieces to see what is inside, has become a ruling *passion*, as all must have observed, and for the very reason just given, namely, that it may become his particular teacher.

Corresponding with this *looking* propensity is the great size of individuality in the heads of all children. They will all be found to be fully developed, almost to deformity, by a marked protuberance commencing at the root of the nose, and extending up through the middle of the forehead, resembling that immense projection above the nose of Burritt. In them, too, more than in adults, observation conveys instruction more vividly and practically than all other means put together. With what avidity they seize every book, containing pictures, and ask to be told all about them. Indeed, their *LOOKING* instinct is too strong, too universal to be mistaken.



Nor should it be overlooked in educating the minds of children. Education should be formed upon it. Observation is the great highway to knowledge. In fact, as all education of mind should be conducted in harmony with the laws of the mind educated, and as observation is a prominent law of the juvenile mind, the young should be taught by observation mainly, till observation has developed memory and reason. How quickly they learn from seeing and being shown, but how slowly from books and descriptions. This is a palpable, universal FACT, based in a LAW OF MIND.

#### EXISTING EDUCATIONAL SYSTEMS REQUIRE REMODELLING.

Existing systems of education require to be remodelled, so as to become adapted to the cardinal law of mind. They almost universally violate it at present. Instead of *developing* observation, they actually *repress* it, not even allowing it its natural action. They cramp what they should develop, and do a positive damage instead of good. They actually curtail observation, and thereby weaken this faculty, so all-essential to intellectual advancement. How many of us, readers, have been rebuked or chastised because we looked across the school-house, or out of its windows. Thump came the ruler on our heads, or crack the birch over our backs, because we looked off our book, with the stern mandate and threat, 'Keep your eyes on your book, or I'll flay the skin off your backs.' Gracious heavens! humanity flogged for trying to SEE. Not for what was bad, but merely for LOOKING. As well chastise for breathing. Almost as well stop respiration as observation; for the latter is quite as essential to *intellectual* life and growth as breathing is to *physical*.

The fact is thus palpably apparent that education is begun at the wrong end, and conducted erroneously throughout. Instead of thus repressing observation, it should even consist mainly in *SHOWING* the beauties, curiosities, and operations of nature. What is there within the walls of our school-houses and seats of learning for youth to see? Their books, from Webster's Spelling to Hedge's Logie, furnish no incentives to observation or instruction. Teaching children to read first books, instead of investigating nature, paralyzes instead of developing intellect. Reading is arbitrary, whereas observation is natural. The former is a task, and therefore rarely secures that intellectual action so indispensable. Most studies are irksome, and thus fail to excite intellectuality, while observation affords the most delightful and powerful stimulus to mental action known. Learning to read, spell, write, parse, cipher, &c., rarely interests, but generally disgusts, and therefore retards intellectual action and improvement; while having things shown and explained delights beyond measure; and this calls all their intellectual organs into powerful and continued action, and thus promotes their enlargement, and facilitates their subsequent action, which alone strengthens the mind, and even constitutes mental discipline. This wasting five or more years of growing children on learning to read and spell, which should be devoted to observation and exercise, is unnatural, injurious, and preposterous. Do children not learn by means of their *organs*? How vain, then, all attempts to educate them till these organs are developed! Shall we not cultivate these organs first and most which are first developed, and the others in the order in which nature develops them? Then as Individuality is so early and prominently developed in children, let us COMMENCE their education by showing and explaining things! Let us no longer confine them to the study of things which they have not yet the faculties to comprehend. As well put the blind to selecting colours and the deaf to learning music.

Granted that this proposed remodelling of existing educational systems is a bold innovation. It is based on two incontestable facts; first, Individuality is one of the first developed and most active intellectual organs of the young; and secondly, that their learning to read and spell exercises intellect but little, at the same time that it actually *prevents* observation and thereby *enfeebles* mind. Excluded from seeing things at school, and probably confined much within doors at home, no wonder that they lose their intel-

lectual curiosity, and experience intellectual decline instead of improvement. Yet how few know the fact or the cause! Their arms, feet, or any other physical organ, laid up unused in a sling, would likewise become enfeebled. No wonder that men flock in laughing thousands to see the circus clown and every other humbug and ridiculous exhibition imaginable; yet care so little for science. This lamentable deficiency of intellect is certainly not constitutional, but INDUCED. It is our fault, not *nature's*. She requires sufficient intellect to guide and govern the entire being, and what she requires she provides. For this required intellectual ascendancy she has provided amply; yet our imperfect education does not develop what intellect she creates, but allows it to become weak from INACTION, whereas it should be AUGMENTED BY CULTURE. Books precede and supersede observation and facts, whereas facts and observation should precede books.

If this new but true doctrine requires additional confirmation, it has it in that constitutional method by which the human mind arrives at most of its conclusions. Reason without fact can teach very little. Could mere reasoning ever have discovered, or can even now perfect, Phrenology or any other science? Unaided by experiment, can it teach us that motion is the function of muscle, sensation of nerve, that heat can be obtained from trees, or that stones thrown up will fall down again? By a law of mind, observation must precede reasoning. After we have tried experiments many times over, we *then* infer that certain causes will produce certain effects. This inductive method of observing facts first, and then ascending through analogous facts up to the laws that govern them, is the only sure guide to certain truth—the only safe method of investigating any of the operations or laws of nature. Now the juvenile mind is an adult mind in miniature, except that this inductive method of gaining knowledge appertains to the juvenile even more than to the adult. They are compelled by an inflexible law of mind to learn most that they know from observation. Then let this inductive lesson constitute the main education of childhood. Education should at once be remodelled. It will be remodelled. Fifty years, probably twenty, will see this fundamental change effected, and the present system demolished. Strange that all the interest felt and labour expended upon schools should not have detected and remedied this fatal error! It is too palpable and fatal to be tolerated much longer.

The educational system proposed by Phrenology is simply this. Even before children are three months old, crowd objects upon their notice. Take them into rooms and places they have not yet seen. Hold them often at the window, so that they may see what passes, and especially learn thus early to behold nature with delight. When six months old and upwards, take hold of things and call them by their names, as plate, bowl, knife, fork, spoon, table, chair, &c. As they grow older, take them out of doors often, which will invigorate their bodies, and thereby strengthen their intellects as well as facilitate observation. Point out trees, leaves, flowers, fruits, animals, &c., in all their ever varying kinds and species; and when asked, 'Pa, what is this? Ma, what is that?' instead of chiding them with 'Do hush, child; you tease me to death with your everlasting questions,' take special pains to explain all, and even to excite curiosity to know still more. Take them often into your fields, gardens, shops, &c., and while procuring means for their physical support, store their minds also with useful knowledge. Even if they hinder you, be patient, because you are developing their minds, which is infinitely more beneficial to them than ornamental attire, or leaving them rich. Accompany them often to the museum. Show them its fishes, fowls, and other animals, and tell them all about their several natures and habits. Provide them with books on natural history, filled with explanatory cuts, so that when they fondly clamber upon your lap, you may show and tell them still more of the wonderful works of nature!

'But I do not know enough,' say many parents. Then learn. 'But we cannot afford the time.' Then *make* the time. Take time to do that first which is most important.

## FORM.

## DEFINITION AND LOCATION.

Cognizance and recollection of SHAPE: memory of COUNTENANCES, and the LOOKS of persons and things seen: perception of family LIKENESSES, &c.

Located partly between, yet a little above the eyes; or on each side of the coxcomb—that bony process to which the falx attaches itself anteriorly. Its development, therefore, crowds the eyes apart, and is indicated by width between the eyes. When it is small, the nose near its root will be narrow, and the eyes set near together.

## ADAPTATION AND FUNCTION.

Configuration is a necessary property of matter. All natural things, even all the minute particles of matter which compose our world and its contents, have a shape. No physical being or thing can exist without having some form. Unless this element existed in nature, we could recognise no person or thing before seen. Or if this element existed in nature, but man had no primary mental faculty adapted to it, he might see his fellow men nine hundred and ninety-nine times in a day, yet not know them the thousandth. But with this arrangement in nature, and this mental faculty in man adapting him to it, we readily recognise persons and things seen years ago, or but once before.

Certain things have also similarity of shape. Thus, we know a maple leaf by its general resemblance to all other maple leaves; and thus of other leaves, vegetables, fruits, animals, and persons. All tigers resemble in configuration all others, and thus of all classes of things in nature. As far as the eye can distinguish a person, we know him to belong to the human race by his resemblance in form to that race. Besides this general resemblance—though all have feet, body, hands, heads, eyes, noses, mouths, chins, eyebrows, foreheads, &c., yet no two human beings LOOK exactly alike. Cast your eyes over any congregation, and behold that vast diversity of countenance there perceptible. No two appear alike. Now, all this diversity of shape, besides enabling us to recognise each other, means something. 'Shape is as character.\*' Therefore every item of shape indicates its corresponding characteristics, and all this diversity of shape tallies perfectly with similar diversities of character; so that configuration is an unfailing index of character.

## SIZE OF THE ORGAN.

In proportion to its size will its possessor be able to remember when he sees persons, animals, or things a second time that he has seen before, and accordingly recognise them. Those in whom it is large will be able to recognise old schoolmates or friends whom they have not seen for a score or more of years, and individuals whom they have but casually met before.

When the organ is small, persons are unable thus to recognise individuals, even though they often met them in business, parties, &c., or if they remember to have seen them, their recollections are faint.

## FORM EMPLOYED IN READING AND SPELLING.

We read and spell mainly by means of the shape of letters and words, and therefore by the exercise of this faculty. All printers read proofs, spell, correct typographical errors, &c., not by language, or by remembering mechanically whether a word ends in tion or sion, or is spelled with z, s, or c, &c., but by the appearance of words,—by the EYE instead of by rote—by FORM, not language. It strikes his EYE as correct or incorrect, not his ear. The correctness of this point is submitted to every proof reader and good speller in Christendom. Moreover, we never have any occasion to know how to spell words,

\* Amer. Phren. Journal for August and Sep., 1845 and 1846, page 54.

except where they are put on paper, or in order to put them on—that is, where Form can be employed in spelling them. This method of learning to spell is far superior in ease as well as durability to the present method of learning to spell by rote, and should be substituted for it. In other words, Form is the NATURAL organ for reading and spelling; and therefore children should be taught at first to read and spell by means of the APPEARANCES of words, instead of, as now, by rote. Language or rote may assist, but should be altogether secondary, whereas now it is PRIMARY. This course will enable us to remember what we have learned, whereas now how few of us, even after having served a five years' spelling and reading apprenticeship, however expert we may have been as scholars, can spell correctly an ordinary page of a letter, or even many common household words! What greater PRACTICAL condemnation of the present system could be had than the miserably poor spelling of nearly all, after all the pains taken?

The reason is this. We learn to spell by rote—by the jingle, and this is forgotten soon after we leave school; whereas we should learn to read and spell by the eye—by the appearance of words, which would enable us to learn much more easily, and then retain what we learn. By adopting the change here proposed, children could learn to spell in less than half the time now consumed, and retain it twice as well—a four-fold advantage, and in one of the most important of all matters where the time and labour-saving principle, now so advantageously applied elsewhere, can possibly be employed. If this proposed change would enable children to learn what they now do in one-fourth the time now consumed, and employ the balance either in gaining health and growth by play, or in learning three times as much as now, behold its value!

#### EVILS OF LEARNING TO READ TOO YOUNG.

Learning to read by another method, much more by the present, requires considerable intellect—is indeed almost a hereulean task, especially to gather the sense of what is read—which is the only object of all reading. If, therefore, after all this sacrifice of time and labour, young children finally learn to read words, parrot-like, before they know their meaning or can comprehend the ideas expressed (as is almost always the case), they fall into a mechanical reading of mere words without ideas. Too many of our ministers, though college-educated, read even the Bible with as much monotonous sameness as the horse treads his bark-mill rounds. They do not even attempt to develop its meaning, but simply recite it mechanically and unmeaningly, as if they were mere reading machines. And some even preach in this see-saw tone. Both are caused mainly by thus prematurely learning to read words before they are capable of understanding what they read, and would be obviated by a postponement of reading till they can fully perceive the sense. And even then special attention should be directed to the DEFINITION of words, and the SENSE of what is read, more than to the words themselves. They should be taught to read words merely as the means of acquiring ideas.

#### TOO EARLY SCHOOL ENGENDERS DISLIKE OF BOOKS.

Too early schooling almost necessarily engenders a dislike of both books and learning. Learning to read is generally irksome—always and necessarily so to young children, because they have yet too little mind to take interest in it. Hence, besides learning slowly, they acquire a settled dislike of both books and school. But wait and read them stories till you first create in them a strong desire to learn to read, so that they can read them by themselves, and, besides learning to read in one-fourth the time now occupied, the delight taken in reading would make them readers through life, and form in them a permanent literary taste and intellectual cast of mind. This point is one of the utmost importance. Its reason is obvious. Young children not only take no interest in reading, but dislike the CONFINEMENT of school exceedingly, and hence acquire a dislike for reading. But wait till they are about eight years

old; meanwhile be preparing them for learning to read by showing them things, and any child can be advanced farther in three mouths than if it had begun at three years old and plodded along year after year till eight; and with this paramount advantage, that the latter will hate books and reading, while the former will be delighted with both. The mother of Wesley would not let her childreu learn a letter till they were five years old; and the day John was five, she taught him every letter of the alphabet, and the next day taught him to read a verse in the Bible. Postpone learning to read and spell, and then proceed as here directed, and any child of ordinary capabilities can learn in a few months. Hundreds of instances in which this course has been pursued have practically demonstrated its feasibility.

## MEANS OF CULTIVATING FORM.

The utility of this faculty renders its cultivation exceedingly important. Since it can thus facilitate reading and spelling—and all children who have Form large, learn these branches proportionally fast—and especially since it can take that cognizance of shape which discloses character, special pains should be taken to augment its power and activity. By what means then can this desideratum be attained? By its EXERCISE. By this ONLY. That is, by observing and remembering shape. Identify or associate together persons and things and their shape, so that you can always remember them by their appearance. The extent to which practice will enable you to do this is truly astonishing. Formerly, circuses and menageries allowed those who had paid their entrance fee in the forenoon to pass in free in the afternoon and evening. If tickets had been given, they would have been transferred, and let in others. Hence the doorkeeper was compelled to remember who had paid. To do this he was obliged to observe sharply and minutely, not their dress, for that could be changed, but the FACES of all visitors. This he did so effectually as to preclude the possibility of deception, however artfully practised. He claimed this remarkable capability of 'carrying faces in the eye' as a supernatural gift, whereas it consisted simply in a vigorous exercise of Form. A similar plan is practised in our southern and western travel routes—the collector remembering where this and that one came on board, and who had paid—all by their faces. Their power in this respect is often remarkable! And it is thus perfected by observing every passenger. The English prisons have a class of officers whose special province is to detect former convicts. This they do by scrutinizing closely all who are brought in; noting particularly every feature and all its peculiarities—indeed, everything appertaining to looks and shape, and they rarely fail to detect old customers. Some of our own police officers are equally gifted in this respect. A like cultivation of Form will confer a like power of recollecting all those before seen, or all whose Form is well developed by nature. It will also enlarge Form when small, which is still more important.

In order to improve this faculty, then, mark well the looks of all you see. Notice the shape of their individual features, and of all collectively, so closely as to be able to recognise them whenever and wherever you may meet them. In doing this you need not stare at them, but look sharply while you do look. Especially are we allowed and even required to observe the countenances of all with whom we converse. What better opportunity could possibly be required for disciplining this faculty? Nor are any too poor to exercise it perpetually and vigorously.

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 SIZE.

## DEFINITION AND LOCATION.

Power of taking cognizance of Bulk, Dimension, Magnitude, Quantities, Proportion. &c., ability to judge of Size, Length, Breadth, Height, Depth,

Distance, and the Weight of bodies by observing their size ; capability of measuring Angles, Quantities, Proportions, Disproportions, Perpendiculars, Levels, and departures therefrom, by the EYE, &c.

Located beneath the inner terminations of the eye-brows, at their junction with the nose. It is very large in Herschel, Astor, and Cook, but small in Ann Ormerod. The following rule will measure its size correctly :—It is proportional to the PROJECTION of the inner part of the eyebrows over the inner portion of the eyes. Where but little projection occurs as you pass from the latter up to the former, Size is proportionally small ; but the larger, the more the former project, like the eaves of a house, over the latter. The frontal sinus may increase this projection, but of this elsewhere.

#### ADAPTATION AND FUNCTION.

MAGNITUDE appertains necessarily to all material bodies. No physical substance or thing can possibly exist without possessing BULK. But for this elementary property of matter, no difference would exist between a drop of water and an ocean of water, or between giants and pigmies, mountains and molehills. Or with this arrangement in nature, but without this faculty in man to put him in relation with large and small, all conception of dimension would have been impossible to us. We could neither have distinguished each other by the general size of our persons, nor the particular size of our features, nor perceived any difference between a rain-drop and a flood. But with both this primary element of matter on the one hand, and this mental faculty adapted to it on the other, we can distinguish things by their being larger or smaller, and apply this measuring capability to most of our relations with matter.

#### LARGE AND SMALL.

Large size enables and disposes the husbandman to make his fences, rows, waths, furrows, &c., straight ; the blacksmith to mould his iron and fit his shoes by the Eye ; the mechanic to measure, fit, and work by Sight ; the artist to give proportion to what he makes ; the grocer to come very near the weight required in cutting off butter, meat, cheese, &c. ; the drover to estimate the weight of stock within a few pounds, and thus of other occupations. Indeed, it is indispensable in most avocations, and useful in all. When size is small, all knowledge and judgment of dimension are proportionally imperfect. Hence the great importance of improving it by culture. Yet how few ever think of doing this further than business may require.

#### MEANS OF CULTIVATING SIZE.

The method pursued by Prussian teachers will show parents, teachers, and all others how to improve this faculty. The pupils are taken to the fields, woods, mountains, &c., and asked how far it is to yonder tree, house, rock, &c. Each pupil takes a given position, and passes his judgment, which is recorded, and then the actual distance is measured, and all are required to look once more by way of correcting and improving the eye as to distance, height, &c. Farmers can improve this faculty by estimating the number of acres in a given field, the number of bushels or tons in a certain pile ; butchers in estimating the weight of cattle, &c. ; carpenters and masons in plumbing and building by the eye ; landscape painters and drawers, in foreshortening and giving the perspective to their pictures ; portrait painters in making them the size of life, and proportioning all the features, and thus of other callings. In short, to improve this faculty, look at things with the view of estimating and applying this element to things.

The study of Geometry has to do mainly with measuring quantities, and of course comes more appropriately under this faculty than any other, although

it calls to its aid nearly all the intellectual faculties. Geometry should therefore form a constituent part of education, and even of children's plays. Let their playthings be so constructed that they can be put together into various geometrical figures, so as to solve its principal problems. Thus they can easily be taught to solve the problem that the square of the two sides of a rectangle triangle are equal to the square of its hypotenuse, by having square blocks of any size, say an inch, and filling a hypotenuse, say of three inches, with nine blocks, or of five by twenty-five, and the other two sides similarly filled, will hold just as many. Playing with geometrical blocks would soon render globe, cylinder, prism, cone, apex, segment, cube, pentagon, octagon, &c., as familiar as bread.

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## WEIGHT.

### DEFINITION AND LOCATION.

Intuitive perception and application of the principles of Gravity ; ability to preserve and regain the balance ; to keep from falling ; ride a fractious horse ; skate ; carry a steady hand ; throw a stone, ball, or arrow straight ; shoot well ; walk aloft on a high and narrow beam ; climb without falling ; walk the edge of a precipice ; in short, to preserve and regain the centre of gravity.

LOCATION.—Draw an imaginary line from the middle of the eyes, when directed straightforward, upward to the eyebrows, and Weight is located internally of this line, in the arch of the eyebrow, while Colour is located externally of it. When large, each fills out the eyebrows at their respective locations, but if small, allows them to run horizontally over them.

Attraction forms a constituent element of matter. Without it, all bodies would rise as often as fall, and be incapable of being kept in any particular position, so that nothing could have been built or done ; for what would have bound matter together ? What else keeps the particles which compose bodies from being scattered throughout space, and binds them almost inseparably together ? What but gravity binds the ocean in its bed, keeps the rivers from ascending mountains, and being scattered over hill and dale ; causes the rain to fall ; binds things on the earth to its surface, keeps it in its orbit, or renders it in any way inhabitable ? Or with this element in matter, but without its corresponding faculty in man to put him in relation with it, so as to enable him to perceive and apply it, he would have lain where gravity carried him, and been incapable of ever doing anything to resist its way. He could neither have walked nor stood. But with this arrangement of attraction in nature and this faculty in man, he can convert nature to his service ; resist wind and tide, manage machinery, and accomplish beneficial ends innumerable.

Its ample development gives its possessor perfect control over his muscles, and directs him how instantly to regain his lost balance, and thus makes him feel safe when aloft, on the ice, on horseback, &c., prevents him slipping much, and then tells him exactly how to prevent falling ; enables him to comprehend and apply motion, understand and manage mechanical and other forces, and judge of the weight and momentum of bodies ; gives him a steady hand ; enables him to throw, jump, &c., with precision. Those in whom it is small, are proportionally deficient in these respects ; feel unsafe when high up, because they know they cannot manage themselves well ; are liable to slip, stumble, and fall ; feel dizzy when they look over a precipice, or are high up on anything ; are liable to have their heads turn or swim ; cannot apply momentum well ; often lose their centre of gravity, and control their motions with difficulty.

Its cultivation, then, becomes highly important, yet is little practised. How rarely do any exercise it or cultivate it in children more than nature actually compels. Yet this should be commenced in infancy, and prosecuted vigorously through life. Instead of holding or bracing children up so that they cannot roll over or fall, teach them to hold themselves up, or also let them roll into uncomfortable positions. Encourage them to stand, walk, run,

climb, &c., and as early as may be, carry them upon your extended hand around the room, changing their position more and still more quickly so as to compel them to exert this faculty in order to keep them from falling.

But most mothers pursue the opposite course, to the great injury of their children. They forbid climbing, and are perpetually ringing in their ears, 'Take care, take care; you'll fall, you'll fall.' Like the fidgety grandmother who charged her grandsons never, on any account, to go near the water till they had learned to swim, lest they should be drowned, these timid mothers forbid their children to climb lest they fall; whereas the very way to prevent their falling, is to encourage their climbing, because this excites and thereby strengthens Weight, which, when developed, renders them more safe aloft than those who have it small are on the ground. When small, they tumble down easily—a straw tumbling them over—so that strengthening this faculty will save them many an extra 'bump.' So far from restraining a faculty thus eminently and extensively useful, its training should form a part of early education as much as talking. Its daily and vigorous exercise should continue through life. Let boys learn to slide, climb trees, &c., and let girls jump the rope, learn to ride on horseback. Let adults also improve and augment its power by *exercise*.

## COLOUR.

### DEFINITION.

Perception, Recollection, and Application of Colours, and delight in them; ability to discern and compare their tints and shades, MATCH colours by the EYE, Paint, &c. Located—See location of weight, p. 18.

### ADAPTATION AND OFFICE.

Colour forms a constituent element of matter. It tinges, variegates, and incalculably beautifies the flowers of the field with its ever-varying tints and shades. It renders all vegetation verdant and delightful. It skirts our mornings and evenings with its golden lines, and paints the gorgeous skies and rainbows with the pencillings of divine beauty. It crimsones the rosy cheeks of health with indescribable loveliness, their beautiful colourings being one of their chief attractions. Without colour how cheerless and dreary the fields of nature and the face of creation would be. But colours exist, and this primary mental faculty enables man to perceive them, apply them, and take delight in them. Indeed, few other things confer more pleasure or profit—more elevation, refinement, and purity of mind and feeling than colours.

Large colour quickly notices and discerns any peculiarities or beauties in the colouring of things seen; experiences pleasure when the colouring is good, but pain when it is defective. With Ideality large, it delights in good paintings, and selects, matches, and applies colours with good taste and judgment. With Imitation, Constructiveness, Form, and Size added, it can excel in painting. The pleasure good colouring affords is proportionate to the activity of this organ.

Small colour neither notices or takes much pleasure in colours; nor discerns interest or beauty in them; nor is able to carry them in the eye. When very deficient, it cannot even distinguish them.

Mr. Stratton, formerly a crockery merchant in Third-street, Philadelphia, failed so utterly to discern the colour of his wares, that he was finally compelled to give up the business. He relates the following anecdote. A female customer called for a wash bowl and pitcher of a given pattern, which he brought out. She wished one of the same pattern, but of a different colour, naming the colour she wished. Unable to distinguish any colour but green, he brought out one at a venture which happened to be quite different from what was wanted. She turned indignantly and walked out, as if imposed upon. An excellent draughtsman in New Haven, could see no difference



between brown and red covered books, and a green table on which they lay. In all such cases this organ is small.

The Cultivation of Colour is important, in proportion to the pleasure its exercise is capable of conferring. To increase its power and action, *exercise* it. This may be done by *studying and admiring* colours—by observing and contemplating that exhaustless and ever-varying richness and perfection of colouring with which nature has painted the flowers of the field. Let one and all study Botany. It is full of interest and pleasure. The growing attention paid to the cultivation of flowers, especially by woman, is a matter of rejoicing. Let children also be encouraged to plant, tend, and admire them, arrange colours and make bouquets, and let them *paint*. Not only show them pictures, but pictures *painted to life*—not those miserable daubs now given them to play with, but those well painted. Let painting be generally practised, especially by women, for all are endowed with more or less of this gift. And let artists be multiplied and patronised.

#### HOW TO PAINT CHEEKS.

Pleasurable as beautiful colours are, especially when tinging the cheek of health, *artificial* colouring of cheeks is not commendable. Not that they should *not* be coloured, for nature would give them the most beautiful tints imaginable. Beautiful woman has only not to *rub off* the paint nature puts on. And even those who, by violating the physical laws, have lost the rosy hue of health and beauty, can restore them by *air and exercise*. Pallid cheeks indicate inactive lungs, and can be repainted temporarily by facing a cool breeze, and permanently by facing it often. They may also be rendered plump and glossy by the same means. No paint can equal that put on by health. Try it, ye who would have blushing, rosy charms.

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#### ORDER.

##### DEFINITION AND LOCATION.

Method : System : Arrangement : having a place for everything, and all things in their places, so that they can be readily found : systematical arrangement of business affairs, ideas, conduct, &c.

Located externally from Colour, and beneath the junction of those bony ridges—the superciliary—which come down the sides of the head, with the arch of the eyebrows—that is, beneath the eyebrows right above the outer angles of the eyes. When very large, it forms an arch, almost an angle, in the eyebrows at this point, accompanied by its projection or hanging over. It is large in Captain Cook. Where small, the eyebrows at this point retire, and are straight and flat, wanting that arched projection given by large Order.

##### ADAPTATION AND FUNCTION.

Order pervades all nature. It arranges a place for every organ of the human body, and puts them all in their places, so that they may the better perform their respective functions. It *systematises* all the operations of nature. But for this institution of Order, creation would have been one grand chaos. But now all nature moves onward with a methodical precision both perfect in itself and beneficial to man. The faculty of Order in man adapts him to this arrangement of Order in nature.

##### LARGE AND SMALL.

*Large* Order assigns particular places to particular things; tries to keep them there, and is much annoyed, perhaps angered, by disorder; arranges books and papers, and conduct business, labour, &c. systematically; and appreciates and desires method in the presentation of ideas, arrangement of sentences, clauses, and words; conforms to Law and Order in government,

religion, &c., and thus opposes lawless measures and mobocracy. *Small Order* throws things down where used last; is desultory in thought, conversation, and conduct, and regardless of method in everything.

Its primary office is to keep its *own* things in their allotted places. Hence, though large in children, workpeople, and others, they may allow and even create disorder in the things of others; because this organ operates mainly in *personal* affairs. So, too, method is not incompatible with coarseness and destitution of taste, almost to slovenliness; or one may be very tidy, yet not at all systematic. Neatness is one thing and method another. The former is the product of Ideality, the latter of Order. Again: this faculty likes order, yet may not always keep it; perhaps on account of sluggishness and indolence, or because of *extreme* activity and consequent *perpetual hurry*. Desire for order therefore measures its power. Still, this desire generally secures the thing desired.

The advantages of Order are very great. The business man who does not keep his accounts straight will fail. System facilitates dispatch, and doubles the work done; whereas disorder wastes time and substance, and is ruinous in its very nature. The 'Friends' usually have this organ large, their women generally very large, and accordingly they are as methodical as clocks; which doubtless contributes largely to their thrift and business success. Ye parents who would render your children prosperous and happy, early instil into them this all-important principle of order and dispatch. And how much more pleasantly that family lives when each returns everything to its place, and when all know just where to find what is wanted. Disorder also sours the temper, and thus inflicts an incalculable moral injury.

Still, it is sometimes too large. Being extra particular has worked many a woman into a premature grave, and made others fretful all their lives.

The *cultivation of Order* is as important as system is useful. To increase its power, be methodical. Arrange tools, accounts, papers, everything, and then keep them arranged, and always replace what you use. Brush up the outward man. Cleanse the person. Exchange soiled linens. Preserve personal order.\* Especially observe intellectual and moral method. To train children up to habits of order is doubly important. Give them a drawer or trunk of their own, and encourage them to arrange and keep all their things in specific places; to fold and lay away their garments, put up their hats, replace their playthings, lay their clothes at night where they can be found in the dark, keep their books whole and in place, and take care of everything.

## CALCULATION.

### DEFINITION AND LOCATION.

Cognizance of numbers, ability to reckon figures in the head, numerical computation, mental arithmetic, intuitive perception of the relation of numbers to each other; ability to add, subtract, multiply, divide, reckon figures, cast accounts, &c., in the mind, unaided by arithmetical rules or figures, memory of numbers.

Located externally of Order, and beneath the outer terminations of the eyebrows, which when it is large, extend *outwardly*, far beyond the eyes, and as they terminate turn upwards or outwards towards the eyes. When it is small, the eyebrows are short at their outer ends, passing but little beyond the outer angles of the eyes, and not bending outwards and upwards towards the ears, as in cases when it is large.

### ADAPTATION AND OFFICE.

*Number* appertains to everything in nature. That is, things can be counted, nor can we help regarding them as one, two, three, four, &c. This calculating

\* Some will retort, 'Physician, heal thyself. Keep yourself more trim and tidy.' Yes, when I've nothing to do more important, but let me first methodise my mental productions.

faculty enables us to order and count things, reckon dollars and cents, arrange things numerically, solve arithmetical sums and problems, and calculate figures. Its uses are therefore incalculably great.

Large Calculation reckons costs, and accounts in the head often more correctly and rapidly than with slate and pencil, and has a natural aptitude for arithmetical calculations in general. *Mental* arithmetic and *remembering* numbers are its more specific provinces. Some instances of extraordinary calculating powers are on record. Zerah Colburn was one, and Bidder another.

*Small* calculation dislikes figures; reckons them in the head slowly and with difficulty, and then often makes mistakes, soon becomes confused, and often forgets the results just worked out, &c. George Combe, though so eminently gifted in other respects, is deficient here. After having obtained his receipts in Lowell, he sent them first to one and then to another, to whom he owed sums, with the request that each would take out the amount due to him.

The CULTIVATION of CALCULATION is exceedingly important, and should be vigorously prosecuted by all through life. To do this, rely upon the head for casting and remembering accounts, as well as embrace opportunities when riding, walking, sitting, &c., to calculate mentally. Time your speed by the milestones, and reckon from the data thus obtained, how many miles per hour day, or month you are travelling. Calculate the prices of such things as you have occasion to buy and sell, or exchange; cast the cost of goods at different prices and in different quantities; reckon in your head the prices of what you buy and sell, &c. Clerks and business men in particular should practise this course. Arithmetical rules with slate and pencil, may be employed as assistants, but rarely if ever as principals. Colburn's mental arithmetic exceeds all other computing systems, both for strengthening calculation and facilitating business. Besides these exercises, charge your memories with amounts due, prices, statistics, the number of houses, dates, and everything appertaining to figures. In short, *exercise* this faculty more and more, the more you would improve it. The extent to which its power may be carried by these means is truly astonishing. The author knows an ignorant but sensible man, unable to read, write, or cipher, who has often done business to the amount of hundreds of dollars per week, who keeps most of his transactions in his head, and says he never had confusion in his accounts till he trusted to books kept by his son-in-law. When young and at work by the year, he took up wages as he wanted them, but made no minute of them, except in his head, yet usually found his recollections agreed with the books kept by his employers. Mr. White, an excellent dentist in Philadelphia, says that his wife's uncle, though unable to read or write, has done business to the amount of hundreds or thousands annually, yet was never known to mistake the exact amount due from him or to him, till he became intemperate. The *Missionary Herald* of June, 1843, speaking of the Gaboon Merchants—a tribe on the coast of Africa—states as follows: 'There are a few who transact business to the amount of twelve or fifteen thousand dollars a year. How they manage a business of this extent, and in the smallest fractions and dribbles, without the aid of any written accounts, is very surprising. It is done, however, and that with the utmost accuracy, without any other aid than that of the memory.'

#### HOW TO TEACH ARITHMETIC.

To cultivate this faculty in children, do not wait till they are old enough to cipher, and then require them to work out sums with the slate and arithmetic, but teach them to *count*, which all children love to do, and proceed *practically*, step by step, as they can comprehend the elementary principles of arithmetic. Teach them to calculate *mentally* first, and by slate and rule afterwards. This calculating in the head so little, and mechanically so much, accounts for the general feebleness of this faculty.

A majority of our merchants are dyspeptic. Standing or sitting bent over

their desks, especially when growing, is one cause. This growing evil should be obviated by calculating mainly in the head. It can be still further obviated by *doing a cash business*. The saving of human time and health which would be effected by closing business transactions on the spot, by paying cash, would be incalculable. It would enable fewer clerks to do more business, and save the precious *health and life* of thousands now putting their very being into account books. Placing all business upon the *cash* system would also prevent the accumulation of those overgrown fortunes so injurious to both rich and poor, by enervating and vitiating the rich, and locking up the comforts and even necessities of life from the poor. The credit system requires large profits to cover its heavy losses, and thus compels good customers to pay the bad debts of those who are too indolent, too visionary, too unfortunate, or too dishonest to pay their own bills. Require *cash*, and men could not get goods till they had *earned* them. This would tend to check speculation, prevent hard times, promote industry and frugality, 'head off' dishonesty, and cheapen all we buy. It would enable people to sell at a small profit, and tend to distribute property instead of concentrating it. When a man carries his money in his hand, he can buy cheap, and keep in his pocket the extra profits required to support the credit system. And as buyers are the masses, and sellers the few, this course would keep property diffused instead of concentrating it, as the credit system does.

But men do by far *too much business*. One Chinese mark of fashion is to wear the finger nails so very long that they require protecting sheaths. Now all these sheaths are useless, because the nails they protect should be cut off; and all the business done in manufacturing, wholesaling, transporting, and retailing these sheaths is useless, and should be dispensed with. So of lacing apparatus among us, which is worse than useless. All the business it creates is unnecessary—a misuse of time and human energy. And thus of a thousand other superfluities. *Nature's* wants are few; but man's artificial and *injurious* desires are many, and create most of our business. Dispense with all this extra business, and pay cash for the remainder, and the amount of human *time and life* thus saved would be incalculable. The time thus saved might be employed so as vastly to augment human happiness. It might be expended in moral and intellectual improvement. But more elsewhere of economising time to bestow on mental culture.

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## LOCALITY.

### DEFINITION AND LOCATION.

Cognizance of Position; recollection of the Looks of places, roads, scenery, Position on the page, and Location of objects seen; that is, of their Whereabouts; the Geographical faculty; desire to Travel and see places, as well as ability to find them; ability to carry the points of compass in the head, &c.

Located over Size and Weight, or about half an inch above the inner third of the eyebrows, and running upwards and outwards. It was immensely developed in Captain Cook, the first circumnavigator of our globe. His history bears ample testimony to the extraordinary power and activity of this faculty. The fact bears testimony to the truth of this science; the more so because his likeness was taken before Phrenology was known.

Large Locality readily recognizes places seen before, and easily finds them; seldom gets lost even in the forest; retraces its path, however winding or intersected; calls to mind where it saw things; keeps the points of the compass in his head; learns and remembers geography with facility, and easily *locates* every thing. Small, it loses its way in the city or woods; forgets places; and learns geography with difficulty.

The ends it subserves are so indispensable, and the advantages of its full development are so great, that its cultivation is of great importance. Like the rest, it must be increased by *exercise*. Mark the places you see,—so that

you will know them when you see them again. If in the city, note streets and important houses. When you visit one not seen before, look around at the neighbouring ones, fix upon any distinguishing peculiarity, so that you may know it when you see it again. If in the country, observe the trees and cross roads; in short, mark *your track* wherever you go, so that you may always be able to retrace your steps. When you read, note the pages on which particular points of interest are stated. Travel, if able; and whenever you do so observe the ever varying scenery presented to the eye. If you can snatch a leisure hour in visiting strange places, mount some eminence commanding a prospect of the surrounding country: or follow a river or shore for a similar purpose. To *contemplate scenery*, besides feasting Locality, exerts a purifying, elevating, and even religious influence over the mind. It is desirable that the expenses and dangers incident to travelling should be reduced to their lowest point, so that its advantages and pleasures may be enjoyed by all. Our nation, America, as a whole, out-travels all the world besides. Few things equally instruct or benefit. Few equally stimulate that observation which lies at the basis of all education. Still, to be useful, travelling must be pursued on some good principle. A dunce may travel a life-time, yet learn less from it than an active, penetrating mind will gather in visiting some contiguous city. Nor do many things require more mind than travelling, when all the good it can confer is desired to be obtained.

## STUDY GEOGRAPHY.

Since we cannot well travel over the whole earth, let us study Geography—practically as far as we can, and then by maps and books. Though the present method of teaching this science is not so defective as that of teaching most other sciences, yet it might be essentially improved. The modern method of employing maps vastly facilitates its acquisition and retention, yet should be carried much farther. Every important city, river, island, and landscape on earth ought to be accurately engraved, so that looking through a magnifying lens at them would represent them the size and appearance of life. Impressions of them thus obtained would never be forgotten. This is doubly important in teaching geography to children. Globes are still more serviceable, and should be constructed large enough to allow cities, rivers, mountains, &c., to be accurately represented by *elevations and depressions*. Geographical gardens should also be constructed on the same plan; but of these matters hereafter. We wish now to urge strongly the study of *natural* geography. The study of the artificial boundaries of countries and states is less important than of the sundry natural boundaries and landmarks. Teach first the grand divisions of the earth into land and water, or the formations of Oceans and Continents. Next its *frame-work*. Thus, beginning with Cape Horn, follow the Andes—that chain of mountains whose extension into the sea forms Cape Horn—along the western coast of South America to the Isthmus of Darien, which it forms; then north-west along the Rocky Mountains to Behring's Straits, which it also forms: then down Kamschatka, which it also originates, through Eastern Asia to the Himalaya mountains, that *head* of the mountainous formation of our globe; and then south-west into its formation of the Polynesian islands; and west through Mount Ararat, the Pyrenees, and rock-bound Gibraltar, to the mountains of the Moon in Northern Africa, and you have the mountainous or bony structure of our globe; especially if you follow the Blue Ridge from its rise in Alabama along the eastern borders of the continent through the Catskill, Green, and White mountains to its northern termination.

Then take up the river basins, and mark the peculiarities of each and all. The Mississippi valley is wide, level, beautiful throughout all its course and all its branches. The St. Lawrence is full of lakes or marshes, both of which result from the same topographical peculiarity of formation. Accordingly, besides containing the largest bodies of fresh water in the world, it is full, all through Wisconsin, Canada, Michigan, and northern New York, of lakes, of

which Seneca, Cayuga, Skaneateles, Crooked, Canandaigua, and others, are samples. Nor can we go many miles in any direction throughout this vast valley without intersecting these lakes or marshes.

Mark another peculiarity in the St. Lawrence valley—that which forms Niagara Falls. Some great internal commotion of the earth has, as it were, broken its crust in two, and raised up one side of the breach several hundred feet. This, the only one-sided hill known, commences in Canada West, extends along the northern shore of Lake Ontario, forms Niagara Falls, continues on to Lockport, where the Erie Canal in rising it makes some nine or ten successive locks; extends on east to Rochester, where it forms Genesee Falls, and continues on to Watertown, which it built up by creating the Fall of Black river at that place. The Oswego river, and each of the other rivers which rise in central New York and flow north into the Ontario, pitch over this same ledge, which creates one or more falls in each, of several hundred feet. Nor are these all the topographical peculiarities of this great northern drain of our continent.

The Susquehanna has a topographical aspect entirely different. Its bed, from the head waters of all its branches throughout its entire course, is broad and shallow; and on each side of almost any part of it, and on each side of all its branches, will be found terraces or rapid ascents from its bed several feet high, then a level, and then other rises and levels corresponding with each other on both sides. Its waters also run close under the base of its mountains, which often rise rapidly to great heights, and are usually regular. Anyone at all acquainted with these topographical aspects of either of these rivers, or any of their branches, can tell what basin he is in just by these general resemblances, without any other means of knowing.

#### GEOGRAPHY FOR CHILDREN.

In cultivating this faculty in children, begin before they are two years old. Teach them east, west, north, and south, etc. If you live in the country, teach them, and often ask them, the direction of given fields, as the wheat-field, corn-field, meadow, pasture, woods, etc., and where certain people live, etc. If in the city, pursue a similar course by calling special attention to public and singular buildings; to streets, lanes, etc., and teach and encourage them to find their own way early.

A personal anecdote: Taking his little daughter, three years old, upon his horse before him, the Author asked her, after a little while, 'Which way is mother?' Then turning a street, 'Which way is she now?' Coming to a place so peculiar as to be easily remembered, she was requested to look around sharply at the houses, in order to remember them next time. Riding on we came to a parrot, with which she was immensely delighted. At our next ride, on coming to the place, she was requested to remember; she recollected it, and was overjoyed with the idea of finding the parrot, which she remembered was near. This time she was told which way to go to find the parrot, and the next time she remembered that also. By pursuing a similar course this faculty can be easily roused to vigorous action, so as through life to note and be able to find the way.

*The Study of Geology* also furnishes a powerful stimulant to this faculty, as well as to many other intellectual and moral powers. The earth has written her own history upon her surface and her depths, besides teaching some of the grandest lessons we can learn. Every mountain, valley, mine, river, embankment, rock, stone, and even mineral and pebble, force upon us the conviction that many and great changes have taken place on the earth since its creation, and record the character of those changes. The various layers of earth seen on digging into an embankment—the different strata of rocks and the different strata of substances in the same rock—the veins in rocks, and the shells often found imbedded in them; huge stones lying far above high water mark, yet worn smooth; petrifications and tracks of animals imbedded in masses of rocks, even on the tops of moun-

tains; the skeletons of extinct races of animals, often of astonishing dimensions, found imbedded deep in the earth, and sometimes in solid rock\*—these and innumerable kindred phenomena, teach lessons concerning the earth's past-history and future destiny which man should know, and which will yet give birth to discoveries of incalculable utility and magnitude. These lessons let children and youth be taught. As you walk or ride past rocks composed of different materials, or an embankment having different strata of pebbles, or clays, or earths, one above another, point them out, and explain what is known of their cause. And thus of other geological phenomena. Whenever practicable, take them into coal mines and other mines. Show them the salt and sulphur springs, by way both of practical instruction, and of putting them on the track of personal observation. You will thus 'sow good seed on good ground,' which will yield both pleasure and intellectual improvement through life. Again, get them hammers, and take them with you to quarries and mountains in search for minerals, at the same time directing their attention to whatever of interest in the world of trees, vegetables, and flowers you may find. One such scientific ramble will excite and develop their minds more than months of reading and spelling. Nor will adults find Geology devoid of interest, but full of thrilling facts and laws. But of this hereafter.

Locality will also find excellent discipline in studying Phrenology, because all the organs require to be *located* correctly. The study of anatomy also disciplines and strengthens this faculty, so do most of the sciences. The perusal of voyages and travels does the same.

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### EVENTUALITY.

Cognizance and memory of ACTION; love and recollection of FACTS; desire to witness and institute EXPERIMENTS; find out what is; ascertain what HAS been, and see what WILL be; love of ANECDOTES; recollection of CIRCUMSTANCES, NEWS, OCCURRENCES, historical and other EVENTS, past and passing ITEMS OF INFORMATION, and general knowledge of what we have DONE, SAID, SEEN, HEARD, and once KNOWN, etc.

Located in the middle of the forehead, directly above Individuality, and between the two lobes of Locality, though extending somewhat higher up. Its full development fills and rounds out the middle of the forehead. It is also very large in Burritt and Michael Angelo, but moderate in Franklin, as is evinced by that depression in the middle of his forehead. It is large in Pitt, but small in Moore. Sometimes though Eventuality may be large, yet an apparent depression occurs at this point, because Locality may be still larger. But when on applying the fingers you find in the middle of this depression a perpendicular ridge not obvious to the eye, Eventuality is *active*, and has been recently improved by culture.

### ADAPTATION.

Nature is one vast theatre of *action* and *change*. To this element of *action* in nature Eventuality is adapted. It enables him to perceive and remember this action.

Large Eventuality remembers distinctly and certainly the *facts*—personal, historical, scientific, miscellaneous, &c., which comes to its cognizance; desires to learn more, stores the mind with that *matter-of-fact* knowledge which constitutes its main body, and furnishes the principal data of reason.

Small Eventuality is forgetful; omits to say and do many things designed and wanted; forgets much it once knew; remembers events indistinctly; cannot readily recall even what it knows; and retains only a general idea of the past and of former acquisitions, instead of that detailed and specific recollection given by large Eventuality.

\* A few years ago President Hitehoeck, of Amherst College, discovered tracks of birds as large as the ostrich in the paving stones of New Haven

Its cultivation must be effected by promoting its *action*. Keep it employed in *remembering*; because the more you try to remember facts, the more easily will you be able to do so. The more you charge this faculty, the more tenaciously will it retain its trusts. The idea that taxing memory confuses and weakens is erroneous. The very reverse is true, except when body and brain are already exhausted. Ask clerks and business men, whether impressing on their minds facts, transactions, names, faces, amounts, and business matters generally, does not greatly strengthen their remembering powers.

*The power of memory is illimitable.* The author has witnessed and experienced innumerable facts tending to establish this conclusion. On requesting the South Boston omnibus drivers to do errands in Boston, he observed that they took no memoranda, yet committed no errors, though they often did a score of errands at a trip. The second time I went to the Boston post-office, the delivering clerk, without looking over the letters or papers, said there were none for me. I requested him to look, which he did, meanwhile remarking that it was useless. He found none. And scores of times the moment he saw me responded that there was something or nothing for me, as the case might be, without my being able to detect a mistake. To be able thus to remember whether or not there is something for any of the thousands of citizens and strangers continually applying, requires an extraordinarily retentive memory; and yet every reader might have attained, probably can yet acquire such a memory. Mr. Worthen, baker, Manchester, N.H., serves three hundred customers, about two-thirds of whom take more or less every morning; but he sets down nothing till he returns home, after having visited, say half of them, yet he forgets not a loaf. A man in Halifax, N.S., can tell at once the name and age of every inhabitant in town, young and old. After delivering a lecture at Clinton Hall, on the improvement of the memory, one of the audience stated that an acquaintance of his, a cattle drover, of New York, who could neither read nor write, after having sold out large droves to different butchers, kept their number, price, and everything in his mind, and could go round months afterwards, even after having bought up and sold out several other droves, and *settle from memory*, without ever having been known to forget anything. Those who think this too marvellous for belief, will find it abundantly confirmed by other evidence furnished in this work. The Gaboon merchants accomplish by memory what is still more extraordinary. The fact is remarkable, that those who can neither read nor write have memories several hundred per cent better than others. Of this fact any reader can easily find examples. The reason is that such, unable to record their business transactions, are compelled to remember them, and thus strengthen this faculty.

What might not the memories of people become if duly disciplined? *Progression*, not *decline*, is nature's ordinance—especially *mental* progression. I am warranted by facts, of which those in this work are samples merely, in regarding the capabilities of memory as illimitable. Reader, within your own reach hangs this most exalted blessing. But modern education, and general mental idleness, instead of improving memory, actually weaken it; first by impairing the energy of both body and brain, by confinement and bad air: and then by giving it so little *food* as to enfeeble it by sheer starvation. We give it so little to do, that it neglects this little.

This doctrine, that the power of memory is illimitable, if duly developed by culture, finds strong confirmation in the experience of Mr. McGuigan, of Milton, Pennsylvania. In examining his head publicly, in 1836, I found a large intellectual lobe, and well remember both the bold prominences of his finely-developed Causality, and that perpendicular ridge which indicates the *cultivation* of Eventuality. In 1839, at Chambersburg, after having heard me urge the doctrines of this work in a public lecture, he requested an interview for the purpose of enabling me to enforce them still more effectually by narrating his experience; adding, that his strongest desire was to induce young persons to *cultivate their memories*. His experience was as follows: At



twenty-five his memory was most miserable. When he went from his tailoring shop to his house for things, he usually forgot what he wanted; or if he went to town did not remember his intended business, errands, &c. He could recollect little that he had heard or read, whether names, dates, words, or facts, till he finally became thoroughly vexed with himself for his forgetfulness, and resolved to discipline his memory. In order to do this, he repeatedly thought over what he intended to do or wanted. He read carefully a page of Xenophon's Life of Cyrus, and then recalled to mind all it contained, till he could remember it perfectly. Then reading another page, he thought over all the incidents mentioned in both, and so on, till his memory was sufficiently improved to pursue a similar course in regard to two or more books at once. He strengthened his memory of names by pursuing a similar course—that is, by recollecting them in connection also with the history of those named. From being obliged to mark where he left of, he charged his memory with it, and soon found this kind of memory similarly improved. He also kept Causality busy in *philosophizing* on what he had read—thus adopting the very method to improve these faculties which Phrenology recommends, namely, *habitual exercise*. The result is, that he has the most retentive memory, and is the best informed man in central Pennsylvania. Lawyers apply to him for legal knowledge, and doctors for medical knowledge, and the literati of all that region resort to him to obtain information on doubtful points, besides deeming it a great privilege to gather from his conversation that information which his diversified and extensive reading and retentive memory enable him to impart. 'Go and do likewise' ye who have poor memories, for yours are as susceptible of improvement as his. He says that now, though sixty years old, his memory still grows *better and better*, and that his mind improves. Burritt's most extraordinary fund of knowledge—that of over fifty languages included—shows what the human mind is capable both of acquiring and retaining. His hereditary memory was undoubtedly great, but McGuigan's was not; so that even if Burritt's case does not prove that all can be Burritt's, McGuigan's goes far to prove that all can be McGuigan's. All children have retentive memories. And nature does her part towards conferring on adults still better, if they would but *perfect by culture* what they *inherit by nature*. Reader, just try this experiment thoroughly and perseveringly, and hold Phrenology responsible for its successful issue.

#### THE AUTHOR'S EXPERIENCE.

My professional practice has literally compelled me to exercise memory, and thus greatly to strengthen it. In making our written delineations of character, where companies were examined, or several individuals in succession, being obliged to postpone writing perhaps for days, and till scores had been examined, I meanwhile charged memory with the size of the organs of all examined, as well as with what I said of them till I could find time to write. If I took memoranda I did not refer to them till I had written all I remembered first, and I seldom had occasion to make additions. To say that this course has doubled my retentiveness several times over is speaking within bounds. Of circumstances which occurred previously to this discipline, my memory is indistinct; but even trifling circumstances which have occurred since, as visits to particular places and families, conversations, and the like, rarely escape me. Memory of names is still poor, because less disciplined by exercise. In visiting families—and I often have appointments every evening for weeks beforehand—I never once think of writing down time, street, place, or number; yet I never forget them. Following out this principle, I never either lecture from notes or commit to memory, yet am literally crowded with facts and thoughts. Phrenology proved, with its thousands of combinations and reports of examinations, was composed, not from notes, but from *recollections*, from which also I could fill volume after volume, without departing in the least from *facts* just as they transpired. The gold of the world would not buy back the improvement thus effected, unless

I could reinstate it by a similar course. Nor shall additional effort be wanting to perfect it still further. This personal narrative is not prompted by a boastful spirit, because no credit is due for having done what business absolutely compelled, but by a desire to lay before the reader another sample from life, for his encouragement and practical direction.

The study of Phrenology furnishes the best possible stimulus of mind, and is therefore cordially recommended both on account of its unfolding the most glorious truths and the richest mines of thought, and as the best known means of improving memory and strengthening intellect. But of this hereafter.

This great doctrine of improving the memory by exercise, might be sustained and enforced by almost any number and variety of facts; and additional encouragement thus afforded to all who would attain so useful and glorious an acquisition; but this is sufficient. And these directions are easily put in practice. All can exercise memory, even while prosecuting their daily avocations. Our business transactions themselves furnish perpetual mental discipline.

*Recalling the past* also furnishes a most excellent discipline of memory. As you retire to rest, spend a few minutes in recalling past events, sayings, doings, &c., of each day. Recall what you did and what occurred, before, at, and after breakfast, dinner, and supper; what you have said, heard, read, and done through the day—your sales in business, or your meditations, if a labourer, and every transaction of the day. Extend this review every Saturday through the past week, and every new year's day through the past year. Also frequently recall the events of childhood, youth, and life. This course was pointed out in former editions of this work, and has been pursued by thousands, every one of whom, as far as I have heard from them, has realised from it much more than they expected, many saying that nothing would tempt them to part with the augmentation of memory and intellect thus obtained.

After the first edition of this work was printed, the author, in a familiar stroll with a sister, remarked that he had urged this review of the past with emphasis, and that he considered it all-important and invaluable. She answered that she had pursued this course ever since she came to reside with him—that at first she wrote down every night, in a diary, the occurrences of the day; that sometimes, when especially occupied or fatigued, she would think over and *charge* her mind with facts intended for writing till the next day or evening. After a while she could thus bear in mind her proposed records for two, three, four, and finally seven days, more easily than she could do a single one at the first. Meanwhile her memory had become so improved that although Eventuality was naturally small, its retentiveness had rendered her a standing reference. The author had before observed that her memory performed remarkably well, though her organ of Eventuality was only moderate. Its habitual exercise satisfactorily explained this apparent contradiction. Even small Eventuality, thus disciplined, will accomplish many times more than large Eventuality allowed to become rusty by inaction. Mark this, ye who complain of treacherous memories.

This review of the past will also show us our errors, and greatly aid in their correction—it will be found a most effectual instrument in self-control and of moral and intellectual improvement generally. The pain occasioned by contemplating our errors, and the pleasure of reflecting on our good conduct, will instinctively lead us to avoid the former and practice the latter. Does not this subject commend itself to the common sense of every reader, at least enough to warrant a trial?

#### RENDERING RECOLLECTIONS PLEASURABLE.

Since to recall our recollections thus strengthens memory and improves morals, the work should be rendered sufficiently inviting to induce its frequent repetition. Memory enables us to *re-enjoy* the pleasures and re-suffer the pains of life over and over again. A single wrong act, which leaves a stain

upon the memory, pierces us with new pangs every time it flashes across our minds, while every recollection of the *good* and *pleasurable* in word and deed, sheds on us a bright beam of happiness well nigh equal to that experienced in the act itself. How immensely important, then, that all our recollections should be pleasurable, and all our conduct, such as to renew our delight every time we reflect upon the past. O, youth, do *nothing* which will not bear *revision*. Bear always in mind that the consequences of conduct do not *cease*, but only *begin*—with the conduct itself!

## TELLING CHILDREN STORIES.

Active Eventuality being thus invaluable, its cultivation in children becomes most important. How then shall it be called into early and vigorous exercise? By telling them *stories* and showing them the operations of nature first, and teaching them to read afterwards. How exceedingly fond all children are of stories and facts. What child has not begged, 'Mother, please tell me a story;' 'Please, mother, do tell some stories.' How often a child can be stopped from crying, or coaxed to do things by the promise of being told stories, if only 'Mother Goose's,' sooner than by almost any other means? Yet how often are they rebuked by, 'Oh, do hush! I've told you all the stories I know. The Bible, to say nothing about its authenticity, is full of common sense and human nature. It enforces our story-telling doctrine in its requiring the children of Israel to tell their children the Lord's dealings with their nation, making it a religious *duty* to tell their children, grandchildren, and great grandchildren throughout all their generations, stories of their forefathers' sojourn in Egypt; their departure, wanderings, rebellions, and their entire national history. The tenacious adherents of the Jews to their scriptures renders it well nigh certain that this injunction has ever been, and still is, scrupulously observed, and accordingly, Eventuality is surprisingly large in them—larger than in probably any other class of people.

The Indian tribes also have remarkably retentive memories. They perpetuate their histories by telling them to their children. The aged grandfather, too feeble longer to chase the stag or wield the tomahawk, taking his grandson on his knee, recounts with a minuteuess and accuracy unknown to us, the traditionary history of his tribe; the story of his life; the battles he has fought; the journeys he has taken, with all their trifling circumstances, even to the seeing of a deer or the flying of an owl. He describes particularly the aspect of the country traversed—its mountains, rivers, and plains, together with all their various objects and appearances. Blackhawk's narrative of his tribe and himself,\* published soon after his first visit to this country, though dictated after he was seventy years old, commences with the residence of his tribe in Montreal; relates those prophetic revelations which foretold their removal; describes all the incidents connected with their successive journeys, caused by the whites driving them back farther and still farther; tells the particulars of his joining Tecumseh, going to Canada, fighting against Harrison, defeat and return; gives the details of the war in which he was taken captive; the aggressions and impositions of the whites; his travels through the States; the persons whom he saw; what transpired, and what was said on particular occasions; and much more to the same effect, all given with a precision and minuteness rarely if ever found in our own race. The Indians know even more of their national history without books than we do of ours *with*, because they tell theirs to their children in the form of stories, while we teach ours to read, and then put our histories in libraries to moulder unused. But unite these methods, and the attainments of our children would be almost incredible, far exceeding anything known. Do we not remember the stories and incidents of childhood with a minuteness and precision altogether surpassing that of riper years? But why this decline of memory, when it might

\* Reviewed, in connection with his developments, in Vol. I., No. 2, of the *American Phrenological Journal*, by the Author.

improve? Because our present educational system prevents its exercise. Memory is literally starved for want of something to recollect ; there being so little to excite it either in school or at home. An illustrative anecdote. A teacher, taking a little girl on his knee, asked her if she went to school. She answered, yes. He again inquired what she did at school. She replied, '*I sit on a bench and say A.*'

Children three years old are required to sit on a bench, and sit still too, and to say A, B, and spell ab, eb, ib, ob, ub, which they learn to do by rote, just as the parrot says 'Pretty Polly,' and with as little benefit. The confinement and vitiated atmosphere of school-rooms do children vastly more harm than saying A does them good. The plain fact is, that children never should be sent to school to learn to read or spell, because the school necessarily injures their health, and because mothers can teach them much faster and better at home. At school they are called up to read only two or three times per day, and yet are compelled to sit six long hours just to do what can be done at home far more effectually and without injuring them. Moreover, they take no interest in their studies, and therefore derive no benefit from them, whereas stories and explanations *electrify* them with delight, and proportionally strengthen their intellect.

This principle also directs us to show children *experiments* in chemistry, natural history, philosophy, and science generally. They can see and remember—that is, exercise Individuality and Eventuality—long before they are old enough to read. Before they are three years old they can both remember stories and explanations, and be taught the whole process of vegetation, from the deposit of the seed in the earth, all along up to its swelling, taking root, sprouting, growing, budding, blossoming, and producing seed like that from which it sprung. Show them how acorns produce oaks, how peach and cherry stones produce peach and cherry trees, which again produce other peaches and cherries, and thus of all the ever-changing operations of nature. Put vinegar into water, and stir in ashes or pearl ash, mark their delight at seeing the mixture foam, and explain the cause. Tell them how pearl ash is made by draining water through ashes, which makes lye, and which, boiled down, becomes potash, by refining which pearl ash is obtained. Ask them what they have seen or learned to-day, and when they tell one thing, ask for another, and then another, thus teaching them to particularize. Or tell them a story to-day, and to-morrow, or next week, ask them to tell it to you. Encourage the elder children to instruct the younger ; and let the aged grandfather describe the habits and customs of men when he was young ; recount his history ; tell them stories from the Bible, or about Washington, the Revolution, England, Greece, Rome, and other things, till their minds are well stored with a knowledge of both nature and history. By these and kindred means, their minds can be started in the love and pursuit of knowledge long before they can begin to acquire this mental calculation from books. It is now submitted to the tribunal of common sense and mental philosophy, as well as to universal experience, whether this course is not infinitely superior to the present educational method—whether the present system does not, by rendering inactive, even trammel mind, instead of developing it—whether this does not account for the miserably defective memories of most adults ; that is, for the decline of memory, instead of its improvement, as we grow older—whether our method is not in perfect accordancce with the laws of mind, especially the youthful mind ? Then let them at once be adopted. But more in reference to this general subject of the training of mind, both juvenile and adult, we have analyzed all the intellectual faculties.

#### TIME.

Cognizance and recollection WHEN things occurred—of DURATION, SUCCESSION, the LAPSE of TIME, of DATES, and the length of time between one event and another ; disposition and ability to keep the BEAT in music and dancing.

and the STEP in walking ; to tell WHEN things occurred ; carry the time of day IN THE HEAD, etc. Located half an inch above Order, and outwardly of Locality, in the middle range of organs.

#### ADAPTATION AND FUNCTION.

The *past*, *present*, and *future* appertain to all things. Even life is composed of one continuous chain of *successive* doings and events. To this institution of time this faculty in man is adapted. By this we are put in relation with all time, and even in eternity ; can hold converse with what has been and will be for thousands of years each way ; can enjoy the present, and can divide and subdivide the past and future to our liking ; appoint particular times specified transactions, and tell them when they arrive ; and have a time for everything, and all things in their season.

Large Time keeps the time of the day, week, year, &c., in the head ; notes and remembers when things occurred, and in narrating them gives their dates ; keeps the beat in music, and is tormented when it is not kept ; preserves the step in walking, and walks in pain with those who break it ; recollects what events transpired before, and what after each other, or the order of their occurrences ; has or desires a time for everything, and all things at their times ; wishes to eat, retire, rise, &c., at appropriate hours, and notes and recollects whatever appertains to times and seasons, such as dates, appointments, chronology, and the like, easily and correctly. Small Time occasions forgetfulness in these and kindred respects, and remembers them imperfectly and with difficulty as far as it does at all ; often fails to notice that appointed times have come, or excuses itself with 'I did not think it was so late.' It, however, requires *less* Time to keep short intervals of time, as in music, dancing, and walking, than to bear the time of day or night in *mind*.

#### IMPORTANCE OF PERIODICITY.

'There is a *time* for all things,' and all things should *happen* at their time. Is it not important that the sun, moon, and stars rise and set in their appointed season ? What confusion would irregularity in them cause throughout the universe ! Does nature regulate her operations by keeping the most perfect time, and shall not man, the highest of her works, observe a corresponding periodicity ? Shall not man follow nature's teachings, by observing that regularity of which she sets so perfect a pattern ? Indeed, she *compels* such observance in part ; and the more perfectly man times himself by nature's clockwork, the more effectually will he secure his own happiness. The more perfectly we observe her institution of *periodicity*, the more virtuous and happy we shall become.

Let us all, then, *lay out* our time wisely. Let us, so far as practicable, appoint a time to rise, to breakfast, to dine, to study, to transact business, and prosecute every avocation of life. Few things are more promotive of health and happiness, or even of life itself. Have no set time for anything, and loss of time, derangement of affairs, and perpetual confusion ensue. Appointing particular times in which to do things facilitates dispatch.

#### FORMING PERIODICAL HABITS IN CHILDREN.

Since regularity is so indispensable in adults, its early formation in children is important. Begin in the very cradle. Put them to bed at particular hours, and they will soon fall asleep spontaneously when their time arrives, and awaken at just such times every day. Feed them regularly, and they will seldom or never require food between meals.—And thus of everything else. The power and utility of habits thus formed are incalculable. Mothers, as you love your children, as you desire their prosperity, mark and follow this direction. It will save you a vast amount of time and trouble, and save them a vast amount of ill-temper, temptation, and sin. Better form good habits in

rather than leave it a legacy of millions. Few things in the training of children, or even in perfecting our own characters, are so important.

#### CULTIVATION OF TIME.

All these and many kindred advantages are the natural result when Time is vigorously and rightly exercised. To strengthen this invaluable power, exercise it carefully. This can be effected by relying not on your *time-piece* for the hour, but on your *head*. Bear in mind the time of day, and the day of the week and month. Often pass judgment on the time of day, and keep in mind how long certain events transpired before or after others. In reading history, impress strongly on the mind the era and order of succession of events. Compare dates and associate together those events which transpired about the same time. Keep the step in walking, and the beat in music. Give yourself a certain number of minutes or hours in which to do given things, and note how long you are in doing them. Be punctual in fulfilling all appointments. Above all, set apart particular times for particular things, and mind and keep to your arrangements. In short, *time* everything.

The extent to which Time is capable of being strengthened by such means is truly astonishing. The experienced nurse, having first charged this faculty to awaken her in half-an-hour, or in one or two hours, as the doctor may have ordered, throws herself upon her couch and sleeps soundly; this watching sentinel within meanwhile counting off the minutes and hours till the time arrives, when it sounds the alarm, and wakes up the other faculties. Many an elderly farmer, unblessed while young with artificial time-keepers, can sleep soundly till the time previously appointed for rising arrives, and waken within a few minutes of the time set. Many elderly people habituated to rising at a particular hour awaken regularly, even when they have been previously disappointed of their rest. All might habituate themselves to these and similar practices. They would soon become second nature, and be incalculably servicable through life.

Yet how little is Time cultivated. Few take any pains to strengthen it. Hence its almost universal deficiency in the American head. In all probability no other national head is equally small. One great cause is our almost universal reliance on time-keepers.

This reliance tends to diminish the action, and consequently the power of the mental time-piece. By carrying the time in our pockets we give this faculty little to do, and it of course *does* little. This abridges the pleasure adapted to flow from its full development and vigorous exercise, besides impairing the efficiency of other faculties. Art may be advantageously employed to aid nature, but should never *supersede* her. We may usefully employ clocks and watches to *help* our mental time-keeper, just as we do arithmetic to aid Calculation, or books to help Language, or notes to assist music, or maps to facilitate geography, or logic to aid reason, but not to take its place.

These doctrines, however, are modified by circumstances. We sometimes become so thoroughly engrossed as to be unconscious of the lapse of time. Time-pieces are therefore necessary. Still, the general direction is good to carry the time in the *mind* instead of the pocket.

To employ all our time secures the advantages designed to be conferred on us by this faculty of Time still more effectually. Time is money. Time is happiness. Time is *life* itself. Time is the ground-work of everything. We can do nothing, enjoy nothing, except by improving our time. The right improvement of time is therefore only another name for every virtue, and for the fullest enjoyment of life. Idleness is the parent of vice, and the canker-worm of enjoyment. Though the slothful may live and breathe, they can effect and enjoy little, and therefore *live* but little in a month, or year, or life-time compared with the diligent worker. Not that we should always be working. Relaxation, when the system requires it, only fills us with energy preparatory to renewed effort, and is thus more profitable as well as more pleasurable than

continued labour. But to sit down and do nothing when the system is not in need of recreation is a loss of time. To waste time in bed is especially pernicious. It encourages impure thoughts and feelings, which lead to sinful conduct. To keep perpetually *doing good* to ourselves and others, shuts out vice and secures virtue. This is our solemn duty. It is the great instrumentality of all enjoyment—the ‘chief end’ of our creation.

To keep perpetually doing, or else *preparing* to do, is the only way to *accomplish* anything great. Who ever knew a great and good man not literally crowded with things urgent to be done? Their greatness consists in their efficiency, and their efficiency depends much on their careful and advantageous employment of time.

Wisdom and judgment can be employed in nothing more advantageously than in choosing *what* we shall do, and *what* do *first*. Our rule should be to do that first which is most important; that which, when done, will confer the greatest amount of personal and general happiness. Oh, what a waste of time are many guilty of. They consume the greatest part in doing things of little or no value; in altering dresses, bonnets, and the like, to suit the newest styles; in attending trifling parties, which neither improve the intellect nor feeling; in artificial display and brainless conversation; in scrambling after money; in preparing and consuming things not only useless but injurious, such as tobacco, tea, coffee, wines, and spirituous liquors. A few of our animal propensities engross most of our time and energies; whereas our moral and intellectual faculties should guide and govern all. Deduct from the sum total of human life all the time spent in providing and consuming unnecessary and injurious extras—in useless cookery; fluttering in the sunshine of fashionable life; acquiring property not required for actual use, &c., and how small the balance. Men generally act as though to make money, or to spend it in fashionable display or sensual indulgence, constituted the highest good of life. Whereas the great law is, that to be happy they must devote the greater portion of their time and effort to their moral and intellectual faculties, the development and gratification of which should constitute the permanent business of life.

#### WASTING OTHER PEOPLE'S TIME.

Men also waste a vast number of each other's time. Time is life; and as no one has a right to take another's life, so no one has a right to occupy another's *time*, except by consent and to advantage. We should, therefore, be careful how we trespass on people's time. Nor should we allow our own time to be wasted. I give no time to others from mere politeness. I consider my time too precious to be squandered.

The rich also very generally, unnecessarily, and wickedly consume the time of the poor; first, in requiring them to do ten thousand things utterly useless, such as gratifying merely imaginary wants and then in not a quarter paying them for their exhausting toil or precious time. Now, by what *right* do the rich consume the time or squander the earnings of the poor? By what right should one man require and use on himself the entire time and lives of two, ten, scores, perhaps hundreds of his fellow-men, and then pay them hardly enough to keep soul and body together? But of this elsewhere.

But the *great* waste of time consists, after all, in the wanton destruction of life by violating the laws of health, impairing our powers while we live, and prematurely hastening death. Strict obedience to the laws of health would protract the lives of many several years, besides rendering them several times more efficient.

#### RIGHTLY TO IMPROVE TIME PREPARES FOR ETERNITY.

Every deed and feeling of this life becomes incorporated into our characters and goes to make up ourselves; and thus affects us throughout all our subsequent life. Why, then, shall not all we say and do in this life affect our condition in that which is to come? Even if the consequences of the right and

wrong use of time ended with *this* life, its right improvement would still be incalculably more important than any description can possibly represent. But time is the door of *eternity*. The use we make of our time here moulds our character and governs our lot in the world to come. Time and eternity are separated from each other only by the mere act of dying—are, in fact, only a continuation of that endless duration into which the first dawns of consciousness usher us. Duration, existence, is illimitable. Man's endowment with Time puts him in relation with this endless duration. We shall exist for ever! Why confer on us this power of taking cognizance of illimitable time, only to tantalize us with a desire for immortality which must inevitably be blasted! Does God sport with man? Impossible. He will protract our existence infinitely. We shall exist hereafter, and exist *in our own appropriate persons*—shall be the same beings there that we are here, subject, of course, to important changes, as we now are between the cradle and the grave, but not such changes as shall destroy our personal identity. Our *mentality*, and not flesh and blood, constitutes our personality. Hence, since our minds and characters constitute ourselves, and since our minds and characters will be only a continuation of ourselves here—the consequences of our conduct in this life will be coeval with our entire existence, and influence our condition for ever. Severing these consequences of our temporal conduct from our eternal destiny, would sever *ourselves* here from ourselves hereafter, which, to all practical intents and purposes, would discontinue our existence at death, a doctrine which Phrenology utterly repudiates.\* What, then, can be more clear than that our conduct here will affect our condition and happiness *for ever and ever*? This inference grows necessarily out of man's mental constitution—out of his possessing this faculty of Time. Hence *whatever augments our virtue and happiness here must enhance them hereafter*. To improve our mentality here is to put us on ground higher and still higher throughout eternity. This law of mind is full of motive, full of promise, and full of glory.

The results of self-improvement, even if terminated with this life, are worth more than all the effort they cost. Indeed, the very improvement itself is pleasure. But when we reflect that we are to exist *for ever and ever*, and that all our deeds, holy feelings, and virtuous motives cherished in this life shed a benign and progressive influence upon us throughout that illimitable duration in which we are placed, who will neglect to *cultivate* his god-like capabilities? Who will let the seed time of this life pass without improving it *all* by sowing good seed? Whatever we sow here we shall reap perpetually hereafter, both throughout the subsequent portion of *this* life, and the entire range of that which is to come!

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## TUNE.

### DEFINITION AND LOCATION.

Ability to learn and remember tunes by **ROTE**: the **MUSICAL** feeling and faculty: perception of musical **CONCORD** and **DISCORD**: love of **MELODY** and musical **HARMONY**: desire and ability to **SING** and to play on musical instruments.

Located an inch above Calculation, and externally from Time. It was large in Handel, but small in Ann Ormerod, who never could be taught either to sing or play. Spurzheim's excellent rule for observing its size is as follows: Stand directly in front of the subject observed, and if the lower and frontal portions of the temples are full, and project out evenly with the outer portion of the eyebrows and cheek bones, Tune is large, but small in proportion as they retire. Still, it being located in a kind of corner, where large Perceptives crowd it outwardly, large Constructiveness forward, large Ideality and Mirth-

\* See the doctrine of man's immortality fully proved in the Author's work on Religion, under the heads of 'SPIRITUALITY and Hope.'



fulness downward, and the temporal muscle passes over it, its position varies somewhat, which renders observation more difficult, except in the heads of children, in whom it is generally larger than in adults, and easily and accurately observable.

#### ADAPTATION AND PRIMITIVE FUNCTION.

God has created a *musical octave*, or scale of harmonious sounds. This faculty adapts man to this musical ordinance of nature. It capacitates him to experience a great amount of exalted pleasure in hearing and making music. It is the instrumentality of some of the most exquisite and thrilling emotions of his being.

#### LARGE, SMALL, AND COMBINATIONS.

Tune learns to sing by ear, or by hearing tunes sung or played. Disdaining the trammels of notes, gamuts, &c., it bursts forth in spontaneous expressions of this musical passion by harmonious sounds. It employs notes, instruments, and the science of music as secondary attendants only, not as principals. *Large* Tune easily learns music by rote; catches tunes by hearing them sung a few times, or even once; loves music, and sings spontaneously, or with the true *spirit* and *soul* of music; learns to play on musical instruments with ease, and, as if by a kind of instinct, easily detects discord, and is pained by it; and loves, as well as easily learns, whatever appertains to music.

*Small* Tune finds proportionate difficulty in distinguishing notes from each other, or learning tunes by heart; is obliged in singing and playing to rely on notes, and perform mechanically; fails to impart the *spiritual* in music to his performance; and is indebted more to musical art and practice than to intuitive musical taste and capability. Still a fine Temperament and large Ideality may love music, and be pained by discord, yet be unable to perform.

Combinations of Tune with other organs are inimitably beautiful. Combined with Language and the social feelings, it expresses affection and love; combined with Combativeness and Destructiveness, it revels in the martial sounds of the fife, bugle, and drum; combined with Constructiveness, it whiles away the tedious hours of labour by song; combined with Veneration, it elevates and purifies the soul by expressing sentiments of devotion, gratitude, and praise; combined with Parental Love, it sings cradle ditties; combined with Mirthfulness, it sings comic songs; and, with unbridled Amativeness added, joins in boisterous revelry and mirth. There is no end to these combinations. They can be employed to express every feeling and sentiment of the human soul.

They can also raise them to a pitch of intensity and power unattainable by any other means. How martial music inspires the soldier with an ardour for deadly combat, which nothing else can inspire! How national songs inspire the soul with love of home and country. By what other means can love be so readily excited or so rapturously expressed! Mothers sing their yearnings of maternal love. Tune, too, lauds or derides in verse and song. 'Let me make a nation's *poetry*, I care not who makes their laws.' *Why?* Because *singing* this poetry so thoroughly imbues the soul with its sentiments. And the comic—Who can resist its convulsive power? Can it possibly be expressed more effectually than by song? Or can the plaintive? What will equally draw tears from the sternest nerves? Or what equally awaken gratitude, or contrition, or animation, or fear? Or what equally infuse new life and vigour into every physical and mental function? Or what equally disseminate a cheerful influence throughout the entire being, or exhilarate both soul and body? Or what equally inspire the divine sentiment of praise to God, or awe of his majesty, or thanksgiving for his goodness, or entire consecration to his service? Neither preaching nor praying bear any comparison with singing as a means of exciting a devout and holy frame of mind. Have a 'revival' without singing! As soon a summer without a sun. But above all, there is

a holy, heavenly state of mind—a kind of *spiritual trance*—that most exalted emotion which man can experience on earth, which can be induced and exalted by means of music more than all other instrumentalities. Indeed music can be so practised as to become the very chantings of another and a better world.

An instrument of human happiness and moral purity thus all-powerful should be cultivated by all. To cultivate music is to diminish gross tendencies and sensual propensities, and develop the higher emotions and holier aspirations of our nature.

As a source of innocent amusement, of recreation, and of refined pleasure, few things equal it.

It is moreover a healthful exercise. Both singing and playing on wind instruments invigorate and enlarge the lungs, by inducing their full and frequent inflation. They also greatly increase the amount of air inhaled, promote digestion, and give action to all those internal organs so liable, especially in the sedentary, to remain inactive. Hence it *prolongs life*, as well as greatly enhances its pleasures. Good singers have generally excellent health and ample busts, because singing develops both. Some *medium* singers, or rather *squealers*, induce *bronchitis*, but never those who sing naturally, which is indispensable to musical excellence. Singing induces *bronchitis* only when it is over-strained and artificial; and those very conditions which impair the voice also deteriorate the singing.

#### MEANS OF CULTIVATING MUSIC.

The *exercise* of tune is the grand prescription both for strengthening it when feeble, and for increasing its capacity in all stages of development. The great cause of its deficiency is its neglect. In common with our other powers, unexercised it declines. While the more you sing, the more you augment its power. Let all, therefore, learn to sing, and, if possible, to play. If time is scarce, take time. Rely upon it, the time thus taken will be made up, both by its increasing mental and physical efficiency while you live, and by prolonging life. Above all things *children and youth* should be encouraged to sing. The growing custom of relieving the tedium of the school-room by interspersing music is admirable. Let it be practised through the day, and throughout all the schools in Christendom. It will greatly promote study and facilitate the government of the school, as well as render the school-room attractive. All children have this faculty of tune by nature; nay, all become singers and players if it be early and duly cultivated. Let children be encouraged to tune their young voices when about the house and fields, both singly and in concert. Let boys be encouraged to whistle and play on instruments, and let labourers make field and forest ring and echo with their notes. Let mothers sing much to their children, as well as strike up cheerful lays when about the house and garden, so as to inspire this divine sentiment in all about them. Song in woman is inexpressibly beautiful. She is pre-eminently adapted to pour forth her soul in strains of melting pathos. She is a better natural musician than man; and hence can better diffuse into society those pure feelings and holy aspirations inspired by music. She can thereby charm her wayward children, and supplant the angry feelings by enchanting and subduing. When her children become fretful or ill-natured, she can *sing* them into sweetness. One sweet tune, when they are wrangling, will quell wrath and promote love a hundred times better than whips. Sweet music will hush any crying child, and dispel anger as effectually as the sun dispels fog. If mothers would *sing* their children out of badness into goodness—would sing to *make* them good, and then because they *were* good—how sweet and heavenly dispositioned they might render them!

Music should, therefore, be almost an indispensable qualification and prerequisite for marriage, and should be cultivated after marriage even more than before. Home is the very orchestra for music. All women should be good singers and players. They might often avert the ill-temper and contentiousness of husbands by charming music.

Special stress has been laid on singing, not because instrumental music is not also cordially recommended, but because, though the latter can be executed so as to be delightful and beneficial, and though playing on wind instruments is calculated, unless carried to excess, to strengthen the lungs, yet no instrument ever made by man can equal the *human voice*, either for melody, richness, expression, or musical effect.

## RIGHT DIRECTION OF MUSIC.

All-powerful as this faculty is for good, it is proportionally so for *evil*. If it can be employed to excite all the better, purer feelings of our nature, so also can it be used to enkindle the worst passions to their highest pitch of tension and phrenzy. Though music should be assiduously cultivated—exercised as much as kindness, or reason, or any other mental power—and though its deficiency constitutes a great mental hiatus which no cluster of virtues can supply, yet the utmost pains should be taken rightly to *direct* it. Infinitely better no music, than music perverted. Yet such perversion need not occur. Still, that it is often perverted is readily admitted. Hence the Quaker practice of interdicting music. Yet no abuse of anything should ever be allowed to prevent its natural use. As well refuse to eat or drink because some eat and drink too much, or interdict reason because it is often abused. No human faculty was ever created to lie dormant, nor can the action of any be suppressed without creating a great mental blank and blemish, and weakening the entire mind. Yet better this than its sinful exercise, which consists in exercising Tune in connection with animal propensity, whereas music should be exercised under the dominion of the *moral* sentiments, and employed mainly to excite them. Let us *practice* music, but let it be *elevating, purifying* music.

## NATURAL AND ARTIFICIAL MUSIC.

As all is not gold that glitters, so all is not music which goes under the name.

The piano may be thrummed mechanically with very little exercise or culture of the musical faculty. Mere artificial music neither comes from the soul nor reaches the soul. It may make us wonder at the skill of the performer, but neither stirs up the deep fountain of feeling nor sanctifies or makes happy. Many music teachers actually *forbid* singing by rote! As well pull out the teeth to help us to eat. We should teach people to sing by ear *first and mainly*. After they have learned to sing well by rote, they may advantageously learn the *science* of music—learn to read music from notes—but never before. Learning to sing by rote is also much more easy and expeditious than learning to sing by gamut. No invention for teaching music mechanically can supply the place of nature, or be relied upon instead of the ear. In general, the more *skill* the less *music*. Still I would not interdict notes. I would only make them secondary to the ear. If we could have but one, I would say give us the ear; but we can have both. Coloured people are natural musicians, and often, especially at the South, make hill and dale resound with peals of thrilling music, yet rarely ever learn to sing or play *by rule*.

The imperfections of modern music are too numerous and too glaring to pass unrebuked. The music of our oratorios, concerts, theatres, parties, and even churches and parlours, is almost entirely artificial.\* The remaining vestiges of natural music are few. It is mostly strained, laboured, and distorted, and therefore enkindles comparatively but little emotion. To reach the soul singing must *come* from the soul. Far better less execution and more *spirituality*. Yet we might unite both.

All are capable of becoming good singers. Nature has given every human being more or less of this primary element of music. Early and assiduous

\* This is not quite true of England.—J. B.

culture will endow all with good taste and execution. This organ ranges several degrees higher in children than in adults, simply because God bestows more music on us by nature than we develop by culture. The artificial music we are rebuking in part causes this decline. Though all children have well developed Tune—sufficient, if improved by culture, to render all good singers and players—yet artificial singing neither awakens nor strengthens this taste, or this power to execute, which, therefore, declines from mere *inaction*. Thus weakened, girls are set down to the piano *as a task*, and compelled to practise perhaps several tedious hours daily, and all from notes; and hence, unaided by any relish for their irksome task, they inevitably become tired and disgusted. Still, they must learn to play in order to be attractive; that is, to catch husbands; and when this ‘chief end’ of modern female education is attained, its practice is laid aside; whereas, if they were encouraged from childhood to sing by rote while about the house, or employed with the needle, music would be so delightful as to be continued through life, thus pouring a continual stream of pleasure into both their own souls and all around.

Girls are often required to lace or whalebone their delicate forms while they practice, in order thereby to give a genteel figure. As well bandage an accordion in order to facilitate its emission of sweet and powerful sounds. We cannot sing without breath; and to obtain a full supply of breath all compression should be removed from the entire trunk. Unrestrained freedom to dilate the lungs, and the whole internal range of organs, is indispensable to good singing. This lacing prevents and thus impairs vocal execution.

Many of the verses set to modern music are unequivocally objectionable, and even pernicious. Three-fourths of them are love-exciting ditties, or else the pining of unrequited affection. How can a truly refined woman rehearse them, especially as feelingly as good execution requires, without crimsoning her cheek? How strange that fashion should applaud these sickening recitals. Turn the tables—let *me* utter the same sentiments and words in her stead, and would she not consider herself insulted, and regard me as a reprobate? This straining at gnats and yet swallowing camels is hateful.

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### LANGUAGE.

The *communicating* faculty and *instinct*: power of expressing ideas by written and spoken *words*: ability to call to mind just such words as will *convey the meaning* intended: *memory* of words: *freedom, copiousness, and power* of language: *volubility*: *versatility* of expression: ability to learn *spoken* languages.

Located partly above and partly behind those bony plates called the super-orbital—those which pass *over the eyes*, and form the roof or upper walls of their sockets. Consequently, the more this organ is developed, the more it crowds down upon these plates, which, in giving way before it, push down upon the eyes, and thus crowd them *downwards and outwards*. But though Language may be larger, yet the Perceptives may be still larger, in which case the latter will project forward still further, even beyond large Language. Hence the fulness of the eye should not be compared with the eyebrows so much as with the bone below them, which, not being subject to kindred mutations, forms a correct measuring point of observation. When, however, the person is tall, and his phreological organs, therefore, long, as in Henry Clay, Language also becomes elongated, so as to run forward *over* the eyes, and thus crowd them more *downwards* than outwards. In such cases the eyes are set far *below* the eyebrows, and their under portions press out the under eyelids, where a close eye, aided by this suggestion, will readily detect its development.

### ADAPTATION AND PRIMITIVE FUNCTION.

Man cannot be happy without communicating his thoughts, his knowledge, and his feelings. Language enables him to devise various languages and

forms of expression to do this. On the wings of Language he can fly from pole to pole, and talk across continents and oceans! He can transfuse his thoughts and feelings into the minds of his fellow-men, and thus rouse their passions, command their wills, and incalculably promote their advancement and happiness, and promote his own advancement and happiness as well.

Fully developed, it gives proportional freedom, ease, facility, copiousness, and appropriateness of expression, or command of language; and also learns to speak foreign languages by hearing them spoken. *Small* Language often hesitates for just the words wished for; is barren in expression; uses common words, and those not dexterously; begins a sentence, stops, and begins it some other way; and is lame and bungling in communicating ideas. *Large* Language never hesitates in putting ideas into sentences, which it fills up with a copious supply of words and phrases, proceeding easily and freely, without any apparent effort, or waiting a moment for words. Nor, whether the educational advantages have been limited or abundant, will it confine itself to familiar expressions, but be copious and happy. It also interests and carries you along till you are so engrossed that the manner of expression is not noticed. Moderate Language may deeply interest you in the subject, however imperfect its delivery; but large Language enlists you by its native felicity and eloquence of expression. Thus Col. Humphries was one of the best of story tellers, and an inveterate talker. With inferior facilities he had learned to speak several foreign languages just from occasionally hearing them spoken, and learned them so easily that he was chosen government interpreter to the Seminole Indians, whose language, though exceedingly difficult of acquisition, he learned in *four weeks*. So retentive was his verbal memory—another talent conferred by Language, because it has to do wholly with words, which it, of course, remembers—that he required to hear no word or expression interpreted more than once to enable him always to remember it. He could repeat a sermon verbatim, just from hearing it delivered. He had all the natural elements of a splendid orator, and would have become one but for his ease-loving disposition. Large Language accompanies this temperament more than any other.

Language also gives the writer a copious, flowing style; yet when larger than the other intellectuals is more wordy than instructive; employs many words to express a few thoughts; amplifies and repeats the same ideas in other words; and though interesting, yet fails to *impress*. Authorship requires more intellect than Language, because it can insert words subsequently, whenever requisite to complete the sense; but the speaker is obliged to express himself rapidly and spontaneously, and therefore requires a superabundance of words always at command, from which to make a ready selection. Even verbosity, unless too excessive, is better than barrenness, because redundancy is rarely noticed, while hesitancy breaks the chain and weakens the impression.

Yet rapid speaking by no means indicates large Language; because an excitable temperament thinks rapidly and feels intensely, and therefore speaks fast, even when Language is only moderate, yet uses every-day expressions, and, unexcited, hesitates, often recasts sentences, and is anything but fluent and easy of delivery; whereas large Language speaks fluently without excitement, and never hesitates in saying just what it wishes. Still, large Language does not always speak thus freely, because extreme Cautiousness may hesitate, not for words, but as to *what* shall be said—may stand on the *matter* instead of its wording; or large Secretiveness may restrain the free utterance of thoughts and feelings, or induce instinctive or intentional ambiguity; or Approbateness and Cautiousness may induce that diffidence which prevents venturing out in conversation or public speaking; or an excitable, nervous system may surcharge the brain with excitement, and thus so far fluster, as to *confuse* both ideas and expressions. And thus of other combinations.

Large Language, with large Ideality, uses good and glowing language; joined with large Combativeness and Destructiveness, it uses severe epithets; joined

with large Individuality and Eventuality, it uses qualifying epithets; and thus of its other combinations. Indeed any man's Phrenology can be correctly inferred from his style of speaking and writing. Yet to enlarge here would take us too far from our original design. Indeed, all the faculties take their tone and direction from these combinations, which this work does not give, but which will be found fully presented in 'Phrenology Proved.'

Learning to read foreign languages is erroneously ascribed to this faculty. It learns to *talk* them, but learning to read or spell languages, requires Form to remember the shape of letters and words, and their various conjugations and terminations; large Eventuality to recollect their rules and conditions; large Comparison to distinguish between the various meaning of words; and thus of other faculties, requiring only sufficient Language to direct them on languages and comprehend their spirit. A far lower order of Language, therefore, will suffice to render one a good linguist than a fluent speaker. Hence excellent linguists often have small Language, and accordingly are poor speakers. Even Burritt himself has good Language, though nothing extra, yet he is not a great speaker, nor any way remarkable for fluency, but speaks measuredly and almost slowly, and taken out of his beaten track of committed lectures, is only fair.

Conversational excellence, next to intellectual and moral, is one of the highest of human attainments or endowments. Good conversational powers are the most perfect of all means of communicating instruction, ideas, feelings. They give their possessor great command over *mind*. To mould *mind*, to model *character*, control *opinion*, and determine *conduct*, is the highest power bestowed on mortals.

But another still higher attainment is the unbounded *power of eloquence*. Behold Demosthenes rousing electrified throngs, till they seize their arms and wildly exclaim—"Let us march against Philip. Let us conquer or *die*." Behold a Cicero wielding the most powerful sceptre on earth by his flowing and effective eloquence. Behold a Burke, speaking not mainly to the few thousands crowded around him, but to a mighty empire—to the entire civilised *world*. Behold a Patriek Henry enchanting and rousing his fellow-citizens at home, and his compatriots in Congress, till he prefaces and ushers in that immortal declaration of *human freedom* which is now undermining every throne on earth, and will ultimately enfranchise the human race, and give to oppressed humanity the glorious birthright of civil, ecclesiastical, and intellectual *liberty*. Behold O'Connell, thronged wherever he opens his mouth. A *nation* at his feet, and hanging on his word! He says forbear, and they forbear, though lashed up to desperation and phrenzy by oppression and starvation. Let him say 'fight,' and nations would rush to mortal combat. Give me *eloquence*, and I will wean erring humanity from its fooleries and errors, *reform and adorn my country*, make it *the model nation of the world*, and make earth at large another Eden.

Children generally are eloquent by nature. They speak spontaneously, and therefore effectively. And, hark! Hear you that deep melodious voice in yonder woody glen? That son of the forest—one of nature's noblemen—is pouring forth in the red man's council his strains of eloquence. Indian interpreters all concur in pronouncing 'the Indian more eloquent, more condensed, elegant, and effective than the white man. Read Logan's speech, and Black-hawk's narrative. Tell your story half so well. But why this Indian superiority? Shall the untutored *savage* excel those who have been at school and college ever since they left the cradle? Shall childhood eclipse *maturity*? We were ordained to grow better as we grow older, not to *deteriorate*. Shall that improvement of brain and mind consequent on physical maturity, aided by years of daily practice, only *impair* delivery? Such seems the fact. This is not *nature's* fault, but our *own*. Our imperfect, paralyzing, perverted *education styles* natural eloquence in *youth*, and our miserably bungling style of conversation and speaking is the consequence.

Would you, then, who hesitate in conversation, and stammer in speaking, you who have good ideas and glowing feelings which you are unable to convey, learn the *cause* of this? Look for it in your having been compelled to sit on a bench and say A, and to smart under the lash and ferule every time you whispered. Or would you learn the remedy? *Talk*. Drive out your ideas—well, if you can, and as well as possible—but well or ill; give them *utterance*. Join debating and speaking societies. Seek and make opportunities for engaging in conversation and public speaking. Do not quake to appear before an audience; they are only men. Let us have more public speaking on temperance, science, religion, and all moral and intellectual subjects. Religious meetings afford excellent facilities for improving this gift and at the same time doing good. Bear in mind that its *exercise* is its restoration, just as its inaction is its decline. Use *words*, oral and written, in public and private. This will discipline language and augment its power. Action—*exercise*—this is the sovereign remedy.

*Conversation* furnishes the best opportunity for cultivating and improving style; because while others are talking, we can both listen and arrange our own ideas and language. And it lacks neither interest nor excitement. There is something in the very nature of this conversational interchange of ideas and feeling—in answering, replying, and answering again—calculated, not only to elicit mental action and beauty of sentiment, but to facilitate eloquent, charming, forcible expression. But these facilities are too little improved. Neighbours spend too little time in this interchange of ideas and sentiments. Man was made to talk much. Yet few talk well.

Let us improve those conversational faculties bestowed upon us by our Creator. Their improvement will enable us to diminish existing blemishes, and add many *strokes of beauty and impressiveness*, perhaps enable us literally to charm mankind by the perfection of our diction and composition, and contribute more to the happiness of ourselves and our fellow men than if we possessed great fortunes.

*Correspondence* furnishes another excellent opportunity for the exercise and improvement of Language, and indeed of the whole mind. It is naturally and eminently calculated to perfect our style of expression, and should be universally practised. Take a little time thus to cultivate Language and cement the feelings. Authorship should not be confined, as now, to the few. All should put their thoughts on paper. The time will come when that mass of intellect and exalted sentiment now pent up in the 'million' will be developed—when men will traffic in the productions of mind more than in lands and goods. Ideas will become the great staple of human commerce. The labours of the press are to be augmented a thousand fold. Communicating and receiving ideas are yet to engross most of human time. Knowledge shall run to and fro, and be increased illimitably. In short, the exhaustless beauties and power of the human mind shall be developed beyond our utmost stretch of imagination. For this mainly was man created. I hail with joy cheap books, cheap postage, phonography, every increased facility for the *manifestation of mind*, and exhort all to embrace every suitable opportunity to *express their ideas*.

To speak *well* is more important than to speak much. Speaking ungrammatically and bunglingly is even injurious, because it confirms a bad practice. We should endeavour to express ourselves correctly and forcibly. The office of Language being to express our ideas and sentiments, of course the more perfect it is the more effectually it subserves this end. Hence the fewer words the better, provided they fully convey our meaning. More are lumber.

*Perspicuity* is the first great excellence of style. You speak and write to be understood; the better, therefore, you enable your hearers and readers to comprehend you, the more perfect your style. Seek perspicuity, therefore, *first*, that your hearers and readers may neither mistake your meaning nor have doubts about it.

Next, be *impressive*. You speak or write to communicate your feelings.

Then so express them as to render the transfer complete. Attaining this end much depends on the general framework of sentences. There is a right and a wrong arrangement for every clause and word of every discourse. We should aim at the one which helps to deepen and perfect the general and particular impression. The difference in the effect produced by transposing clauses and words is often very great. To frame ideas into sentences, and then alter and modify in order to perfect them, is a most excellent means both of mental discipline and of promoting correct and forcible expression.

Add *ornament* to perspicuity. Nature adorns all her works. Nature is in fact one grand galaxy of beauty. We should endeavour to be like her. What is so *perfectly* enchanting as elevated sentiments elegantly expressed—beauty of *soul*, manifested in beautiful words. It is truly divine. And nature who has provided so amply for adorning her physical works, has provided still farther for ornamenting her highest work.

Let others paint the *external* man, and I will adorn the *internal*. Give me elegance of style; I care nothing for gaudy attire or splendid equipage. Yet how many spend hours every day in preparing and putting on these outward adornings, and make no effort to beautify the mind, or improve its means of manifestation. What is more ridiculous than a lady fashionably attired, and assuming all the airs of would-be attractiveness, whose language is insipid and ungrammatical. Let me have elegance of expression with rags, rather than showy attire with awkwardness of expression. For men to rate fashionable habiliments above mental accomplishments shows how low in the scale of being man remains. Let all who value *mind* take unwearied pains to improve its verbal manifestation. If men would take the pains to ornament their conversation which they do to adorn their persons every sentence would be a charm, books would be enchanting, and our interchange of ideas a perpetual feast. Let us strive to beautify and perfect every sentence we utter and write. Still to have more ornament than *sense* is disgusting. We require both the sweet and useful, but the useful most.

*Naturalness* or simplicity is another important requisite in a good style. Whatever is natural is beautiful. Of nothing is this more true than of the manner of expressing ideas. A strained, laboured, far-fetched, artificial, involved style is proportionately bad. I do not favour Chalmers' style. It is over-wrought, swollen, difficult of comprehension. Our words should be placed in the same order on paper in which we speak them. One great fault of modern style is its departure from this oral and natural standard. Whoever is natural is elegant.

#### STUDYING THE DEAD LANGUAGES.

Some stammerer repines, 'I would give the world to speak fluently and converse freely; but though I have tried my very best to discipline Language—have learned Greek, Latin, Hebrew, and Arabic; have translated Virgil, Cicero, Horace, Demosthenes, and Homer—I am still unable to speak in public, and I converse only indifferently.' I pity you, and can put you in the way to your end. Lay by languages for awhile, and *talk and speak* instead. The study of languages is useful, but can never alone make a good speaker. Modern education often *prevents* instead of promotes good delivery, because it restrains the *exercise* of Language. But it also inflicts injury on *health*. Out of fourteen graduates who took the highest honours of their respective classes, in seven successive years, at one of our best colleges, *twelve* died within *two years* after having graduated! And if this average destruction of health occurs in the best scholars, its proportional enfeebling occurs in the different grades of scholarship. By thus enervating the brain, it both impairs the mind and weakens the speaking capabilities.

We can, in general, converse, write, and speak more elegantly, fluently, and forcibly when well than unwell. The reason is, the intimate relations sustained



by the brain to the body. Hence, whatever impairs the health weakens Language, instead of strengthening it. In order, therefore, to improve Language, *invigorate health*. Next, *talk* much, and *well*.

## LEARNING LANGUAGES ORALLY.

Let me not be understood as condemning a knowledge of the dead languages, but only as censuring the mode in which they are now *taught*. They should be taught *orally*. Books should be *used*, but only as *auxiliaries*. Teach a student languages by *talking* them, and he will learn them in one-tenth the time now spent. And he will *retain* them also; whereas most now, after having spent several years in half-acquiring them, so far forget them after leaving college, that they cannot read an ordinary sentence without a lexicon. To teach languages *orally* is the method which harmonizes best with the *laws* of *mind*. The best *time* to acquire languages is in childhood. If the parents, nurse, or teacher *talk* and explain them by word of mouth, they are easily *learned* and hardly ever forgotten.

*The Study of Grammar* may render service in conversation and style, just as mechanical arithmetic may aid Calculation, and notes music, but can do nothing without *practice* and *attention*. Grammar should be taught *orally*, in conversational explanations, especially at first.

Twenty years will see a great and much needed improvement in this branch of science. Our best grammatical instructor is *observation* of expression.

## EMPHASIS, ARTICULATION, INTONATION, ETC.

Mere words do not express all our thoughts and feelings. Much depends on the *way* they are spoken. The same words, placed in the same order, can be so uttered as to convey quite different meanings. Thus, 'Gone to Boston,' can be so spoken as either to declare that the person before mentioned has gone, to *ask* if he has gone, or, uttered ironically, to *deny* his having gone. Or we can enhance the meaning of words and sentences by intonations, inflections, and degrees of emphasis.

1. *Emphasis*. Language is so formed that many of the words are comparatively unimportant, and require to be slid over lightly, while others require to be uttered with the entire stress and stretch of the vocal apparatus. Thus—*of, the, is, and, are*, and the like, are usually unemphatic, though sometimes they are the emphatic words of sentences. When not emphatic, utter them distinctly but lightly, so as to allow the words which *are* emphatic to stand out in more bold relief. Those who emphasise most of their words emphasise none. But relieving the voice by uttering the less important words lightly allows you to come down with mighty emphasis where great power or stress is required, and also to talk with such perfect ease as not to strain or irritate the vocal apparatus.

In order to give these emphatic words their full force just put your stress mainly on the emphatic *syllable*. Thus, in order to utter tremendous with tremendous force, do not emphasise every syllable as *tre-men-dous*, but only the *men*, *tre-men-dous*—not *overwhelming*, but *over-whelm-ing*, and thus of all other words. Yet utter emphatic words *distinctly*. A clearness of enunciation indicates clear thought and intense feelings.

*Inflection* embodies and expresses even more than emphasis. The way we *and* our syllables and words conveys vastly more meaning than the words themselves. Indeed, they embody the great secret of effective conversation and speaking. All that is thrilling, pathetic, and soul-stirring is conveyed by these tones. They are to vocal expression what nerves are to the body. They are its 'thunder and lightning.' Their power is incalculable. No means of writing them has yet been devised—and hence the superiority of the voice over the pen—of extempore sermons over written ones, however well composed.

The fidelity and minuteness with which these tones and inflections correspond with the thoughts and feelings is perfectly astonishing. They express every mental operation.

Some faculties or emotions cut these intonations off short. Combativeness does this. Others prolong them. Of this class are the infections. Whoever has been thoroughly in love *prolongs* these intonations or endings of words. Veneration also prolongs and solemnizes. Mirthfulness shortens, but in a very different manner from Combativeness. Causality imparts weight or body to them. Ideality polishes and elevates. Let me urge the importance of *perfecting* these inflections by *culture*. Above all, let your intonation be natural. Never utter your words affectedly, as if trying to put on anything double extra.

*Committing to Memory* will also improve Language. Children should be encouraged to commit verses and other things to memory, and to continue to do so through life. Yet teaching children, parrot-like, to commit words *merely*, without the sense should be avoided. They should exercise their other faculties in connection with memory.

#### ALLOWING CHILDREN TO TALK.

As the improvement of Language in adults is effected chiefly by its *exercise* so with children. Hence, the way to render a child eloquent when it becomes matured, is to allow it the free use of its tongue during childhood. All children are talkers. Their tongues are seldom long at rest. In bestowing this faculty, the Author of their being made talking a duty as well as a pleasure. Who then shall dare to suppress it, or punish it? Those who do so annul God's works, curtail a great pleasure, effeeble an important faculty.

'Then how shall we do?' say teachers. 'How can we teach when the scholars are deafening us with their perpetual clatter?' Send them home to be taught by their mother. 'But,' mothers exclaim, 'how can we endure their everlasting rattling and hallooing? We send them to school to get rid of them!' Then send them to their graves if they are so very troublesome. You are bound, as parents, to seek *their good*, not your own ease. Hence, to interdict their talking prevents the exercise and discipline of their minds. 'But must we be harassed by their incessant clamour? Have we not a right to still their tongues? As good a right as to stop their breath, but no better. There are of course times when, if duly disciplined, they will gladly listen instead of talking, because interested in what is said; or they will listen from filial love—yet this differs materially from compelling them to hold their tongues perpetually. But sending them *out of doors* much will obviate all difficulty, besides improving their health.

#### USING GOOD LANGUAGE BEFORE CHILDREN.

We ought to use good language before children. They are imitative creatures, and learn to talk in exact accordance with the examples set them. The principle which makes them learn to talk English, Spanish, Arabic, or Indoo, when those around them talk those languages, makes them copy all their peculiarities, phrases, and forms of speech. Hence, an acute observer can tell from the idioms and euunciations of persons not only whether they are Yankees or Southerners, but in what State they were brought up. This same law will render childreu gross or elegant in conversation, forcible or feeble, correct or ungrammatical, accordiug as those converse from whom they learnt to talk.

The way to teach childreu to talk correctly, therefore, is to talk correctly before them. Express yourselves elegantly, and they will learn to express themselves elegantly; be bungling and ungrammatical, and they will be the same. It is important, therefore, to talk before them in as good English as possible. So with books. We all copy more or less the style of the authors we read—especially of favourite authors: so that writers should use good

language as means of improving the general tone of conversation and speaking. Speakers also should clothe their thoughts in grammatical and elevated language, because every sentence goes to mould the elocution of the public.

How foolish and injurious, then, this *baby talk*. It consists in saying foolish things ungrammatically. If infants require milk to feed their bodies, they do not require silliness to nourish their minds. All you say makes its impression on their minds. Like excites like. Talking sensibly to them will quicken their intellects, and clothing good ideas in elegant language, besides imperceptibly exciting the excitement of the beautiful in them, will start them on high ground—will form in them a classic style from the first, which may go on improving through life. The conversation of parents and adults before children should be a perpetual feast to their unfolding minds. Children then would speak correctly. Talk *ideas* to children, or else say nothing, and clothe your ideas in good language.

#### WOMAN'S TONGUE—FOR WHAT BESTOWED.

Woman's talkativeness is frequently cast in her teeth as a reproach. That it often becomes a reproach is too true, yet her constitutional flippancy is one of the chief beauties and excellences of her character. Children are all constituted to be instructed by *conversation* more than from books. You can get more into a child in one hour than you can drive into him with books in a week. A good lecturer, if aided by specimens, &c., can impart to them more real knowledge in an hour than they could gather from ten hours' reading. Conversation is in every way better adapted to their capacities than books. Now 'woman's loquacious tongue' was given her in part to enable her to instruct children by conversation, her language and parental love making her take pleasure in talking to them.

Thus nature fits her and almost compels her to become their instructress. Mothers are the only constitutional teachers of their children. Unless children are educated at home, they never *can* be educated properly. Schools rarely, if ever, form either intellectual or moral characters. Mothers must form *both*, as a general thing, or else they must go unformed; and hence the flowing style of woman's lips. It is as natural for her to talk as to breathe—especially to her children—which exactly adapts her to this conversatio-educational demand of her children. A full elucidation of this important matter is in reserve for the work on 'Woman.'

#### DEFECTS IN THE ENGLISH LANGUAGE.

In many respects our language is imperfect. Man is a progressive being in language as well as in everything else. A few hundred years will see the mode of speaking incalculably improved.

The mode of *writing* English is more imperfect than the mode of speaking it. Thus A has one sound in fate, another in fat, another still in fall, and still another in far. C, k, s, and z, often exchange places, and the great majority of our words are spelled in a way at variance with the true sounds of the letters used. Nor can this be remedied till every sound has its own letter, and every letter its own sound. What are letters good for but to represent *sounds*? Then every sound should be represented by its own letter, and always by the same letter. This done, when a child had learned these letters, it would have learned to read and spell, so that learning to read and spell would require but a few days or weeks. Nothing would be required to enable us to read, write, and spell correctly, but to learn what characters stood for the different sounds. Reading and spelling would then be simple; *now* they are exceedingly complex. They would then be *easy*; *now* they are very *difficult*. Nothing would be left to the memory but the alphabet; whereas now scarcely any one can always remember how a word is spelled. Any one could then spell words *right* by spelling them according to the pronunciation, so that all who could speak our language could spell and read it readily and correctly. The dreary years now

spent by children in learning to read and spell would dwindle into as many weeks, and most of the expense of schooling would be saved, and the health of children be preserved. In short, incalculable benefits would spring from placing languages on their true ground—that of representing every primary sound by a specific character. This important end is attempted by Phonography. Phonography consists in attempting to indicate every important sound by a single character—every sound made by one motion of the vocal organs, by one stroke or motion of the hand. This must strike all as exceedingly desirable. Nothing of equal importance can possibly be accomplished.

1. As we have already observed, it would greatly facilitate learning to read and spell all languages.

2. *Perfect legibility* is another important end secured by Phonography. It can be read as easily as print.

3. It will also *amalgamate all languages*, so that in learning them nothing will be required but to learn the definitions of their words. Foreign languages could then be learned in one-tenth of the time now required. The eye and ear would then act in concert. At present when words are not spelled as pronounced, they act in opposition.

4. Writing the Roman characters requires at least five times more labour and time than is necessary. Thus, in making an m, we are obliged to employ seven strokes or motions with the pen, five for n, ten for the, six for w, and thus of nearly all our letters; whereas only one stroke should be used to represent one sound. This would diminish the time and labour of writing three-fourths. To cite the author's own case: his *subject matter* accumulates in his mind five times faster than he has physical strength to put it on paper. If the time and labour of writing were reduced four-fold—if he could signify as much by one stroke as he does now by five, he could produce five times as much *thought*, and, supposing his writings to be useful, could do five times as much *good*. And thus of other writers, and of all who may have more thoughts than time or strength to put them on paper. Thus would *mind* be developed and thought quickened, to the incalculable augmentation of human happiness.

5. Apply this rule of contraction to printing, and we could put several times as much matter on a given amount of paper as now, and thus proportionally cheapen literature, and multiply the food of the mind. This reform would thus double or treble human mentality, and double or treble life itself and all its pleasures.

6. This reform would improve the matter and style of what is written. If we had only one stroke of the pen for every vocal sound, we could write and report as rapidly as talk; and thus retain that warmth, glow, and rapture on paper which are now confined to speaking. Add to this, that the speaker could subsequently trim and perfect his productions. The sun will never shine upon any invention equal to that which shall enable us to put thoughts on paper as fast as we can utter or conceive them.

7. But the highest recommendation of Phonography is the science it embodies. It consists in applying nature's requisition of representing every specific sound by given characters or signs. Its framework is a sound for every character or letter, and a letter for every sound. This is obviously right, and infinitely preferable to our present system of writing.

A secondary recommendation of Phonography is its forming every letter by a single stroke or motion of the pen. This also is scientific, and will allow us to write as fast as speak. To say then, that I unequivocally approve of Phonography—that I go heart and soul for its universal adoption, is too tame. Nature *requires* its adoption. I regard Phonography as the great *commentator and developer of mind*, and therefore as the great mental lever of all reform. Temporary inconvenience would attend the change, but infinitude alone can measure the good it would confer. Old as I am—valuable as my time is—I shall learn it and reap its advantages, and have my children learn and write it: and recommend its universal adoption, especially by the young.

Two rival systems are now offered for public adoption ; Pitman's, an Englishman, and Bayley's, a Vermonter. Which is the better? This important question must be answered mainly by experience. But the author has had no experience in either system, and therefore can only answer partially, and, perhaps, then, inaccurately. He has heard a lecture on each, and rather prefers Bayley's. And for two reasons :—

1. Pitman's system writes the vowels in after it has written the consonants, and above and below the latter, so that you must take up the pen every word or sentence, and *go back* to insert them, just as we now do in dotting the *i* and crossing the *t* ; while Bayley's writes them in and finishes up as you go along. This taking up the pen and going back is objectionable, unless you can write an entire letter or discourse, and then re-read and point all at once. If Pitman's can effect this object, its superiority is unquestionable. Reporters can then write the more rapidly, and the printer set up after him without the insertion of the vowels in the manuscript.

2. Pitman represents the *p* by a light stroke, and *b* by one just like it, only heavier, and this plan of light and heavy letters runs through his system wherever sounds nearly alike but slightly differing are to be represented. These light and heavy strokes cannot be as well represented by a pencil, which greatly impairs his system for reporting. Bayley's system obviates this difficulty, besides being shorter. Still, Pitman's may have other advantages and Bayley's disadvantages which my cursory examination of both may not have observed. Bear in mind that I know little of either, and consider neither as perfect. Yet both have invaluable advantages over the present system, and should be examined, and one of them, or something better, be adopted by all lovers of mental progression.

#### PROPOSED INVENTION.

Another kindred improvement is required, and will soon be invented—~~that~~ of altogether superseding the composition or type-setting, by stereotyping. Now, the types must be set before they can be stereotyped, but why cannot a smooth wood or metal plate, the size of the gauge, be coated over with wax or some plastic substance, in which the phonographic characters can be formed, not with pen and ink, but with a style or hard point, and from which the impression can be taken direct. Engraving on steel is accomplished by forming the letters in wax spread on the plate to be engraved. What should hinder our stereotyping by a similar process? These plates, when stereotyped from, could easily be re-coated, and thus used continually for years. Will not some ingenious Yankee carry out some plan analogous to this *practically*, and thereby amass any required amount of wealth, immortalise his name, and confer the highest possible blessing on man? But for his other pressing engagements, the author himself would have presented this suggestion experimentally.

In order, however, to accomplish so desirable an object, we must use the same characters in writing as in printing. This Phonography ought by all means to do ; yet both Pitman and Bayley are getting up founts of phono-type on the general basis of the common letters. Of this I unequivocally disapprove. That form of letter which is best for writing is also best for printing, and for the same reason. Have them both alike, and when a pupil has learned his letters for either, he has learned them for both. Now we must learn two alphabets, in fact four—one for common, and one for capitals—for both writing and printing. This diversity should be obviated. Let one form of letter represent its corresponding sound whenever and wherever used, so as thus to secure oneness of impression.

This proposed invention will tend to secure a plain and beautiful chirography, instead of those miserable scrawls too generally used. Give us one easily made stroke for every sound, and then teach pupils to *write* the alphabet when they learn it, in order to aid its acquisition, and, besides learning their letters

twice or thrice as quickly and effectually, they will learn to write by learning to read, as well as early and easily acquire a beautiful handwriting. This will also cultivate the art of drawing, the advantages of which are incalculable.

There is also a great amount of character in men's handwriting. Show me a person's handwriting, and I will tell you the writer's leading characteristics. This index of character our proposed invention would convey.

A new invention has been made by which exact copies of all writings can be multiplied rapidly, and to any required extent. This invention is invaluable. I shall learn the art, and recommend others to do the same.

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## COMPARISON.

### DEFINITION AND LOCATION.

INDUCTIVE reasoning: ability and disposition to CLASSIFY, and to reason from parallel cases and a collection of scientific FACTS, up to the laws which govern them: discovering the unknown from its RESEMBLANCE to the known: detecting error from its INCONGRUITY to truth, or opposition to FACTS: ability to employ ANALOGY to the discernment of first principles: to GENERALISE, COMPARE, DISCRIMINATE, ILLUSTRATE, EXPOUND, CRITICISE, EXPLAIN, employ SIMILES and METAPHORS, put this and that together, and DRAW INFERENCES.

Located above Eventuality, and in the middle of the upper portion of the forehead. It commences at the centre of the forehead, and runs upwards nearly to the hair, in the form, when projecting beyond the surrounding organs, of a cone, apex downwards, forming a ridge which widens as it rises. Its ample development elevates the middle of the upper portion of the forehead, and gives it that ascending form so conspicuous in the engraving of Jonathan Edwards, whose entire intellectual lobe was very large, and whose Comparison was pre-eminently developed. When it projects beyond the surrounding organs, it rounds out its upper portion, causing it to project forwards and upwards, but allows it to retire in proportion as Comparison is less developed. It is less than Causality in Herschell, as is evinced by that darker shading seen to pass up and down the middle of the forehead. Its size is easily observed. It is immensely developed in the engraving of Shakspeare, and the powers it imparts form the most conspicuous elements of his inimitable writings. His unequalled shrewdness, sagacity, analysis of human character, discernment, penetration, appropriateness, cogency, descriptive capability, and perpetual flow of illustrations, were imparted mainly by this faculty.

### ADAPTATION AND OFFICE.

All nature is *classified*. Thus, all pine trees and all chesnut trees bear so close a resemblance to all other pine trees or chesnut trees as to be easily recognised; and thus of all trees, and of all herbs, roots, grains, seeds, flowers, fruits, animals, and things in nature. This classification or similitude, established throughout nature's works, enables us to assort animals and things of the same and kindred genera and species. It enables us to tell that a strange horse will eat hay but refuse stones, just from his resemblance to other horses. It assures us that all apples grow on trees. It tells us in the absence of all knowledge and description of him, and with infallible certainty, that the Emperor of China has a head, heart, mouth, and other organs, and that he eats, sleeps, breathes, and does many other things, because of his resemblance to other human beings. It infers correctly that a fire we never saw before will burn us if we touch it, from its resemblance to all other fires which Eventuality remembers burnt before. It informs us that a given stranger, of whom

we know nothing, has bones, muscles, brain, and other organs, and tells us in what parts of his body they are located ; that he cannot eat arsenic or iron, yet that he requires food or breath, merely from his resemblance to others of whom these things are true. Before trying it, how do we know that a given tree, cut up and put upon the fire, will burn, evolve heat, and produce ashes and heat ? Or that a particular stone thrown into the air will fall ? Or that water will descend, that food will nourish, and thus of other things innumerable ? By their resemblance to *other* things, of which we know these other things are true. These illustrations show how vast an amount of our knowledge is inferred by Comparison. This great classifying law of things discloses the natural history and constitutional character of all animals and things. It is nature's universal key, and unlocks her vast storehouses of truth. But for its existence in nature, no animal or vegetable of one kind would have borne any resemblance to any others of the same kind, nor would men bear any resemblance to each other in appearance to character any more than to trees or elephants. No such thing as resemblance would have existed, and all nature would have been one vast bedlam ; and but for this faculty in man, though things would have been classified, yet man could never have discovered or applied this principle of classification, nor have distinguished man from brute or vegetable. This arrangement, however, in nature, combined with this faculty in man, enables us to generalize ; enables us, when we have learned a general truth, to apply it to all analogous facts. Analogy is undoubtedly designed and adapted to convey a vastly greater amount of knowledge than is now learnt from it. Inductive reasoning is yet in its merest infancy. Its revelation in comparative anatomy, organic chemistry, and many other sciences, fully assures us that it can be applied with equal success in all departments of science, Phrenology and Physiology included. Man has just learned from it, merely from inspecting a single stray bone of an unknown animal, to tell all about the habits and natural history of that animal. What, then, is to be the end of its teachings ? ~~How~~ give it due credit for the reasoning capability it imparts. It reasons more and better than Causality. But of this hereafter.

Large Comparison readily detects resemblances, differences, and bearings ; generalizes correctly from a few facts ; sees from a little what a good deal means ; spells out important results from slight data ; draws *inferences* readily and correctly ; discerns at a glance the point at issue, and speaks to it ; is copious and appropriate in illustration, and frequently explains its meaning by supposing similar cases ; easily makes itself fully understood ; clears up difficulties ; explains and expounds clearly and plausibly ; readily detects incongruities and errors ; is apt to criticise and pick flaws ; and seeks to trace facts up to those general principles which govern them.

Small Comparison fails in these and kindred respects ; does not bring ideas and remarks to specific point ; fails in clearness, and is bungling and inappropriate in illustration and remark ; is vague and pointless in both ideas and their communication ; and is imperfect both in the classification of his own ideas and in perceiving the general drift and bearing of things, especially of nature's operations. There are, doubtless, two organs of Comparison ; the lower one more appropriately connected with the physico-perceptives, in comparing physical substances with each other, and reasoning thereon ; while the latter, combining more naturally with the moral faculties, reasons from the physical to the moral world ; compares ideas ; criticises and discriminates between them, and imparts logical acumen.

If this be so, morals and religion are distinctly brought within the scope of our investigating powers, so that we can know much more, and with more certainty, about ethics, a future state, the spiritual world, and kindred subjects, than is generally supposed.

Inductive reasoning consists in discerning from a great number of converging facts the law which governs them, and then of inferring that all similar facts are governed by the same law. It is the royal road to positive knowledge, and leaves no room for doubt or evasion. Rightly applied, it never

misleads. It constitutes the great key to nature and her works. It is the great teacher of the human mind. It teaches children to avoid the fire; to shun a fall, &c.

Though Individuality observes things and their conditions, and Eventuality treasures up their doings in the memory, yet, without Comparison to complete the process by discovering the laws which govern things, and work up the materials furnished by the other faculties into useful principles, we should never be able to benefit by our knowledge. Since, then, Comparison is essential to the practical application of knowledge, it should be assiduously cultivated. How can its improvement be effected? By *reasoning inductively*, by *drawing inferences* from what we see, by *spelling out* the lessons or *results* of all facts and data brought before us. As many gaze at things without actually seeing them, so many notice occurrences and conditions without reasoning upon them. Ferret out truths and laws from all you see. Examine everything with a searching mind. Compare one thing with another—one idea of a speaker or author with his other ideas, and detect errors if he commits them. Endeavour to discern a writer's beauties, and what *renders* them beautiful. Especially criticise your own mental productions. Write, and then thoroughly revise what you have written. Scan its doctrines, and scrutinize the order of its paragraphs and sentences. Many writers, especially those unaccustomed to composition, form correct sentences, and say many good things, yet fail in *consecutiveness*. They say in one connection what, though true and important, should have been said in some other. Comparison will find excellent discipline in arranging heads, paragraphs, sentences, and clauses in that consecutive order required to give forth an idea in all its fullness, and to render the impression complete. Criticise all you read with this view, the Author in hand not excepted.

Philological criticism, or scanning words in order to see whether they are used in the best manner, or whether some other word would not have conveyed the meaning more correctly, will also be found an excellent discipline of Comparison. Language calls up words, but Comparison assorts them, and chooses the one which exactly expresses the idea intended to be conveyed; and out of many words, nearly synonymous, chooses the most appropriate. This verbal criticism, in connection with grammatical criticism, furnishes excellent exercise for this faculty. And we cannot read a line without furnishing subject for criticism. The study of the natural sciences *experimentally*, the most of all the study of *human nature*, as taught by Phrenology, Physiology, and Physiognomy, furnishes facilities for cultivating this faculty.

The comparative, illustrative method of reasoning, is pre-eminently adapted to convey instruction to children. It should therefore be used both in giving them lessons and in answering their questions. Especially teach them the inductive process of reasoning, or how to draw inferences from ranges of facts. Thus, in teaching them the great law that heat expands all bodies, take a phial or tumbler filled so full of water that another drop will make it run over, and setting it on the stove to heat, show them that as it becomes hot it runs over, but settles down as it again becomes cool. Show them that this same principle causes water to boil, by expanding most what is nearest the fire, and thus making it rise, while that which has become cooler by contact with the air, sinks to the bottom. Take a bladder partly filled with air, and let them hold it to the fire and see it swell, and then let them carry it back and see it shrink, till they see that heat expands and cold contracts *air* as well as water. Then explain on this principle the motion of the wind. The sun, breaking through the clouds in one place, and not in another, heats the air in the former place more than in the latter, and thus swells it, so that it rushes upward, just as a cork rises to the top of water, while cooler air rushes in to fill its place, which also becomes heated, and is displaced by another ingress of cooler air; and hence the perpetual motion of the wind. Let them see a blacksmith's hoop and wheel. When hot the tire is so loose as easily to slip over the wheel, upon which it contracts as it cools, and thus presses tight upon the wheel every



way, and makes the whole firm and solid. A few such experiments and familiar explanations will teach them the great law of things, that heat expands and cold contracts, which they will remember for ever, and around which, as a nucleus, they will gather future observations ; for never afterwards would they see any exemplifications of this law without exercising their minds upon it. Explain still further that steam is only water greatly expanded by heat, which when compressed in the boiler, forces its way into the cylinder, drives the piston, and thus turns the machinery. Show them also that steam returns to water when it cools. Take other classes of facts and apply them similarly, so as to teach them other laws, one after another, and thus keep their delighted minds on the stretch of pleasing inquiry and investigation. And they will thus progress rapidly in their examination into nature and her laws, as well as form a mental habit of correct and ready generalization and inductive investigation. Thus trained, they would not reject Phrenology, or any other new thing, till they had examined it *inductively*. Nor would they make such blunders as men now sometimes commit, of believing and disbelieving without evidence.

This method of teaching can be applied with special advantage to health. Show them that such and such articles of diet make them feel so and so ; and that they feel cold by certain exposures, become sick, and have to take bitter medicines. This method of teaching can be carried out to any extent. But take special pains to observe *simplicity*. Most teachers take it for granted that the pupil understands and comprehends more than he does. Goldsmith, whose mathematical powers were quite deficient, was once asked why he taught his class so well. He replied, "Because I keep only one lesson in advance of them." We must come down to their capacities, and adapt our instruction to their limited knowledge of the subjects taught.

Comparison is located by the side of an organ which *reads character*, in combination with which it is therefore designed to be exercised. Its name is

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## HUMAN NATURE.

### DEFINITION AND LOCATION.

Discernment of CHARACTER : perception of MOTIVES : intuitive PHYSIOGNOMY : reading men instinctively from their looks, conversation, manners, walk, and other kindred signs of character.

*Located* between Comparison and Benevolence, about where the hair begins to appear. It extends upwards as if a part of Comparison. The great rise of Shakespere's forehead, from 36 up to the hair, shows how enormously this organ was developed in his head. Accordingly, few men on earth ever possessed the power it confers in a more remarkable degree.

### ADAPTATION AND USE.

Man was made both to manifest his mentality and also to take cognizance of the characters of others. But for such manifestation and cognizance, no mental operations could ever have been expressed, or interchange of ideas effected ; nor could anyone have known the least thing of his fellow men. This manifestation is effected in part by Language ; yet without *natural* language, verbal language could never have been devised ; natural being the tool with which verbal was built. An intimate relation exists between the mentality and the physiology, and especially *physiognomy*, by which we look angry, pleased, benignant, and show whatever we *feel*. To this natural language, spoken by all human beings in all ages, and even by brutes, this faculty is adapted. This faculty reads this natural language, and thus gathers a vast amount of much needed information concerning our fellow men, even when

they are only casually seen, which can be obtained from no other quarter. Indeed, this manifestation of character by mankind, and the institution of this faculty in man, actually compel us to form some ideas of the characters of all we meet, and if duly cultivated would enable us to read our fellow men almost as plainly and completely as we read print, so as infallibly to detect the cunning and the unsafe, discover talents, amiableness, goodness, and all characteristics of our fellow men.

Natural language, moreover, like everything else, has its *science*, and embodies as much certainty as mathematics. Its grand basis is that universal law that shape is as organisation, and organisation as character. The walk, gesticulation, manners, dance, laugh, tones of all men—all they say and do—are full of character. These indices of the mentality, this faculty, called Human Nature, discerns and from them forms its opinion of the character and talents of a man. We little realise how much concerning our fellow men this faculty is capable of disclosing, if duly cultivated and assisted by the other faculties. All human beings carry charts of their mentality and character at their mastheads, legible even in detail by all who know how to read them; which, however, few do. Yet few species of knowledge are more delightful or profitable. It teaches *human* nature, that highest department of nature. Nor is any other science more vast or complex. And it can be turned to good account. It tells us whom to trust and distrust. Hence the importance of

#### ITS CULTIVATION.

To effect this culture, note what everyone you meet says and does. And trace every word, every manifestation of character, up to that fountain from which it gushed. Ask yourself what prompted this motive, that expression, and yonder action? Look through conduct to motive. Ferret out disposition and character wherever you go. Form your judgment of men, and then inquire of yourself from what, in them, you deduced your conclusions? Note and spell out even *little* things said and acted. "*Straws* show which way the wind blows." Little things will often put you on the track of the entire character, because done *unconsciously*, whereas more important acts are *guarded*.

An illustrative anecdote. The reader may remember the horrible murder of a bank clerk, committed in Rochester, about 1839, in order to effect a robbery. The murderer was detected as follows:—A citizen, in whom Individuality, Comparison, and Human Nature are very large, in passing a door, heard a person order a cabman to take his trunk to the railway station, with an oath, and a harsh peculiar manner, which arrested his attention. His Human Nature and Comparison at once inquired what state of mind dictated this excited, imperative manner. The haste required could not have been caused by the near approach of the train, and his whole manner indicated guilt, which suggested that this swearing youth might be the murderer. Thus reflecting, the citizen turned his steps to the railway station, where he saw the luckless youth consulting stealthily and earnestly with what he supposed his guilty participators in crime, which, with other confirmations of his suspicions, he communicated to the bystanders, who, of course, narrowly scrutinized the gang. The gang, seeing themselves thus closely eyed, took fright, and in attempting to flee and hide the booty, exposed and revealed the dreadful secret. Now it was the combined activity of these two neighbouring faculties which inferred from the singular *manner* of the young villain that he was guilty. This detection was effected by *tracing out* a minor manifestation of mind to that state from which it sprung. All actions, all expressions, and all looks, have some *prompter*; and the great secret of discerning character is first to observe what men say and do, and then to trace every manifestation up to its fountain-head. Full directions for doing this will be found in the work already on "*Signs of Character*."

## CAUSALITY.

## DEFINITION AND LOCATION.

Perception and application of CAUSATION : ability to discover FIRST PRINCIPLES and trace out the relations existing between CAUSES AND EFFECTS ; desire to know the WHY AND WHEREFORE of things, and investigate their LAWS ; ability to reason from causes down to effects, and effects up to causes ; the WHEREFORE AND WHEREFORE faculty ; ability to adapt ways and means to ends ; to plan, contrive, invent, create resources, apply power advantageously ; make the head save hands ; kill two birds with one stone ; predict the result of given measures, and the like.

*Located* at the outer portions of the upper part of the forehead. When amply developed it widens and expands the upper portion of the forehead, or causes it to project forward and hang over, as in the engravings of Tyndall and Locke.

It is also very large in the engraving of Bacon, but small in that of an idiot.

It is large in Herschel, as seen in the expanse of his forehead, and the prominences at this point ; but retreats in Burritt. In Franklin this organ was immensely developed, and his talents form an excellent sample of the cast of mind it imparts.

## ADAPTATION AND OFFICE.

*Causation* reigns supreme throughout nature. Our world is made up of antecedents and consequents—of causes and effects. Every effect must have its specific cause, and every cause produces its own effects. *Like* causes also produces like effects. *Uniformity* and *law* govern everything. Without this arrangement all would be *chance*. Man could rely on nothing, could effect nothing, and therefore enjoy nothing. But with this principle of causation pervading nature, and this mental faculty enabling him to perceive and apply the principle, he can accomplish innumerable ends otherwise unattainable, procure innumerable comforts otherwise beyond his reach, and even force the very elements into his service. He can likewise penetrate the hidden operations of nature, and, aided by his moral faculties, even comprehend those *moral* laws which govern the world of mind.

## LARGE AND SMALL.

The intellectual cast and characters of Bacon, Franklin, Tyndall, Locke, Herschel, Kant, and kindred minds, furnish practical samples of the powers its ample development confers. Its distinctive office is to *discern and apply causation*. All application of ways and means to ends, and all perception of the instrumentalities by which ends are effected, depends upon this faculty. Its full development, therefore, readily sees by what means given ends can be best accomplished ; suggests expedients ; creates resources ; judges which of the plans proposed is the best ; loves to contrive and lay plans ; requires and is always ready to give its *reason* ; accomplishes much with limited means ; sees how to apply power most advantageously ; makes the head save the hands ; desires to know the *why and wherefore* ; given ability to reason, infer, invent, contrive, take advantage of circumstances, and predict results ; takes comprehensive views of subjects ; gives strength and power of intellect, and solidity and originality of mind ; comes to correct conclusions ; and says and does what makes an impression.

*Small* Causality is defective in these and kindred respects ; devises merely temporal expedients instead of laying long-headed plans ; lacks scope of intellect and range of mind ; has few thoughts, and those only common-place ; takes contracted views of subjects ; lacks judgment ; requires to be shown

how ; lacks foresight, head-work, and sagacity ; neither appreciates nor perceives the beauties of causation. Yet man's *deficiency of reason* is well nigh as great as this faculty is useful. How destitute of wisdom the great mass of mankind. What folly in the choice of objects of pursuit, as well as in their prosecution. How few ideas men possess. Man boasts of reason, yet, alas, how little they use this God-like element. This which should stand at the head of his nature, and guide and govern his entire conduct, is thrust into the back-ground. Its voice is stifled amidst the din and roar of passion. Its warnings are unheeded, and its guidance refused. When I behold such a dearth of reason—see such folly characterise the opinions and conduct of my fellowmen—my soul sinks with discouragement at the low state of humanity. Yet I console myself by reflecting that man *improves*—that foolish as men are now they have been worse, and that they are still becoming better. Within the last fifty years, perhaps twenty, the grand idea, so perfectly apparent throughout all nature that causation reigns supreme, has just begun to be generally perceived and admitted. Yet even this great truth of the supremacy of causation, palpable as it is, is still practically denied in the matter of health and sickness, which many ascribe to Providence, instead of regarding it as a consequence of violated law.

The great mass of mankind get their thinking done by *proxy*. Political leaders do most of the political thinking—what little *is* done—of mankind. They can ride into power on any hobby they please to mount. Oh ! I tremble for my country—for *republicanism*, that glorious birthright of humanity—when I see how voters go for their *party*—that is, let their *leaders* virtually do their voting. Every vote should be a deposit of an *idea*, whereas now nine voters in every ten are a party ticket, which unprincipled leaders control at pleasure.

Religious leaders also do most of the religious thinking of mankind. Why, the very summary of the articles of faith of one of the most numerous religious bodies in Christendom is that they are incapable of forming their own opinions, and must take them already formed for them by antiquity and their 'infallible church.' The reliance placed in 'the church,' or, 'the general assembly,' or 'the grand conference,' or 'the articles of faith,'—the fact that men follow their sectarian leaders thus blindly, is proof of their own feebleness of reason, at least in religious matters.

The fashionable world too—does it think ? As well look for a needle in a hay mow, as for a thought among our exquisites. The *business* world thinks on *money* matters. They are shrewd in scraping up dollars ; but reason *proper* searches out the great principles of *nature*, and investigates those fundamental laws of things on the observance of which human happiness depends.

Now deduct the business world, the fashionable world, the religious world, and the political world from the whole world, and then subtract from this balance the ignorant and debased who do not even essay to think at all, and what a miserable few remain ! This barrenness of reason allows designing men, by flattering the prejudices and pandering to the passions of the masses, to convert them into mere dupes and tools by which to accomplish selfish and wicked purposes. It enables the few to control the many. It starves those who live by their intellects, but showers honours and fortunes on those who live by feeding the propensities of mankind. It renders polite conversation perfectly nonsensical, and rates riches higher than talents. Oh ! when will men learn to think ? When will they govern their opinions and conduct by the principles of true philosophy ?

This poverty of reason is not nature's fault. She has provided for its ascendancy. Has the reader never observed the fine, high, expanded foreheads of children, and admired those noble developments so often seen at the sides of their upper portion ? Cast your eyes over a hundred children, and then over a hundred adults, and behold with pain the marked superiority of ~~the~~ children. Yet the reasoning organs, if the order of nature were carried out,

would grow *larger* instead of smaller. *Progression*, not decline, is her motto. *Why this decline?* What is its *cause*? *Inaction*. Children's intellects are shut up in the school-house and pinned fast to the bench, and at home stifled by parental inability or neglect to feed their inquiring minds! Their brains become withered. Their being whipped to school, and chastised at school, engender a dislike of the teacher and a hatred of books, which result in mental vacuity, and consequent decline. Phrenology condemns the present system of training the juvenile mind, as calculated to *deadens* instead of *developing* its energies. Causality literally *starved*, not only during childhood, but adolescence, and even through life.

How can this poverty of intellect be obviated, and its long array of direful ills be supplanted by the blessings conferred by a fully developed and well directed intellect. One means is to

*Answer the questions of children.* They ask a perpetual string of questions. They also ask *what, why, and wherefore?* Let these questions be properly answered, and any child will be well educated, though ignorant even of his letters. The continual string of questions asked by children, provided you will allow it, furnishes perpetual opportunities for explaining some important truth, or teaching some valuable lesson. And yet, strange to relate, many parents actually become angry at them for asking questions, and interdict this best of all means of acquiring instruction. An unusually inquisitive, that is, uncommonly smart child, once asked her grandmother what bricks were made out of; and when answered, asked what made them *RED*? The reply she received was, "O, do hold your tongue. Don't ask so many questions, and no one will know you are a fool. Girls should be *seen*, not heard." The grandmother could not tell why, and therefore became angry with the child for having asked.

Answering the questions of children is as essential to their intellectual growth as food is to that of their bodies. And yet our present educational system discourages instead of answering them. What questions can children ask at school? Yet would not answering their questions convey instruction and develop mind far more effectually than learning to read? Would it not excite ten times more intellectual *action*, and thus proportionably promote *mental discipline*? Let them be encouraged to ask all the questions they think of; and let not parents or teachers turn them off with shuffling answers. Give them the *true* explanation, or else tell them you do not know. If you can couple your answers by a familiar illustration, all the better. An inquisitive girl, seeing a fountain in operation, asked what made the water rush up so fast and then come down? Her father, on returning home, took a long hollow tube which had an angle in it, and, pouring water in at the top, showed how the water of the fountain was forced upwards by the pressure of water in a high reservoir, running through pipes under ground. Parents should also educate *themselves* in order to educate their children, and should rely on *home* instruction, not on hired teachers.

Another method of developing juvenile intellect is by *teaching children to think for themselves*. They are too often taught to *believe* instead of to think; or else are taught to think from erroneous data, by which their Causality is warped. Teach them to do their *own* thinking. Give them correct starting points, and then let them investigate and judge for themselves. If you do their thinking for them while they are children, they will get it done by others when older, and will be led blindfold in politics, literature, religion, everything.

Children should also be taught, as far as may be, to answer their own questions. They were told something yesterday which virtually answers a question asked to-day. Recal these answers, and tell them to put different matters and things together, and form their own judgments.

The human mind, if started on its intellectual career in harmony with those mental laws pointed out in this work, would not flag before its powers began to expand, but starting on high ground, would rise higher in its intellectual acquisitions and capabilities every day.

But, notwithstanding the palsy influence of education on juvenile investigation, the cause-seeking and cause-applying powers might regain the vantage ground thus lost, and still become active and powerful. Between the fifteenth and twentieth years this disposition to think and investigate receives a new quickening, coupled with a vast accession of power. All who look back to this period will bear experimental witness that between these ages they began to think, investigate, inquire into the nature of things, search out causes, and take expanded views of subjects—that their minds began to experience the ripening influence of their augmented physical energies. But by this time, alas, their labour begins to be of value, and intellectual culture must be subjected to worldly pursuits. They must leave school and become operatives, or, if wealthy, play with the foolish passions. Soon after love asserts its dominion, the cares of the family soon follow, and, all combined, rob intellect of that cultivation so indispensable to its growth.

But the remedy of these evils. How can they be obviated? By *thinking and studying causes*. Investigate the *means* employed by nature to effect her ends. All creation is one grand theatre of universal causation. Nature's universal motto is a cause for every effect, an instrumentality for every operation. Can the sands of the sea-shore be numbered? Yet every one of these has its cause, and in turn becomes a cause. Who can count the leaves of the forest? Every one is caused and governed by a variety of laws. Nor sand, and leaf, and plant merely, but earth herself—is both an immense effect and cause. Behold it swung through mid heaven, as if the lightest thing in creation. Behold the moon, itself a huge mass, but the lightest of the light in the hands of this almighty causation. The sun and the stars—so vast, so far removed that mortal mind can form no adequate conception of either, yet all only a little segment of that vast belt of suns and worlds, governed by infinite causation as if an atom merely. Oh! the myriads of causes and effects in perpetual progress from “everlasting to everlasting,” throughout the infinitude of God's works! Their stupendous power hurls a universe of worlds, from age to age, with that same perfection and ease with which it descends to the merest trifles of creation. All, all is effected by Causation. Verily, the range of causes and effects opened to our investigation and admiration is indeed *infinite!*

But we need not go out of ourselves for matter with which to feed this delightful faculty. Every motion of every limb is effected by some *instrumentality*, and so is every animal, every mental function of our complicated nature. Behold the perfection of our motions, of all our functions. Not a muscle is wanted which is not supplied, and exactly fitted to perform its office. Not a bone, not a nerve omitted. The entire body crowded with organs which become the causes of required operations. Of this the eye is often chosen as a sample; but, perfect as it is, nearly every part of the body is an equally perfect example of the perfection of that causation which crowds every portion of the body—every department of nature.

But all this—vast, mighty, infinite in its greatness as well as minuteness—is nevertheless as a drop in the bucket of Divine Causation. To toss huge worlds throughout space as if the merest footballs—what is all this compared with the almost infinitely higher order of Causality which unites mind to matter, and governs all its operations.

Behold, then, O mortal, that ‘fast of reason’ spread thus lavishly before thee, literally thrust upon thy perpetual cognisance. And wilt thou shut thine eyes? Worlds of beauty are strewn around thee and within thee: shall thine eyes be sealed against them? Boast not of thy wisdom, O man, till thou hast searched out some of the ‘ways’ of a wonder-working God! Shall we fool away our time in mere worldly occupations, in getting something to eat and wear, or in satisfying artificial wants, to the advantages of studying nature? Better live on the simplest fare to save time to cultivate so glorious a gift. Is it possible to do anything which will contribute more to our happiness?

Oh, youth! one and all, receive admonition. You have your intellectual characters yet to form. A long life—if you obey the laws of health—is opening before you. You are now to choose how you will spend it. Your mental habits will soon become fixed and rigid. Hence, if you study this Divine Causation at *any* period of life, commence *now*. Not a day is to be lost. The mental occupations of every day go to shape those of the next, and these two to form those of the third. Would to God I could have been impressed, while young, with the doctrines of this volume—of this paragraph. Would to God I had *early* acquired that love of the study of nature which I now find so euchanting. Oh, youth! let no day pass without your ascertaining one or more of those instrumentalities which she employs in effecting her ends. Open your eyes upon her boundless system of ways and means, and keep them open through life. Think perpetually when at work. Meditate on all you see and know. Make vigorous and perpetual search into causes, connections, and dependencies of things. Wherever you go, whatever you do, when you see anything you do not fully comprehend, ferret out its cause and contemplate its bearings. Never be ashamed to expose your ignorance, if you thereby gain knowledge. Lay those who know more than yourself about particular matters under contribution, till you have gained from them what they know. By pursuing this course with several you may know as much as them all.

A deceased friend of the author pursued this course. Coming across a writing master whose system of chirography was truly excellent, he followed him till he had learned all his teacher could show him, and then added that *practice* which rendered him a superior penman. He fell in with a grammarian who had some new and excellent views of grammar. He followed up both teacher and system till he became an adept, and published a work on this subject unsurpassed. He was introduced to the author for phrenological examination, and saw that there was truth and excellence in Phrenology, and accordingly followed up this science till he became expert in it. His motto was to learn all that anyone could teach him. He was not impertinent, but earnest and persevering. And the experienced love to teach those less informed. You can make it a great *pleasure* for those you meet to communicate what they know, and then, starting on this advanced ground, you can prosecute this matter till you become wiser than your teachers. A great error of youth is supposing they already know it all. No surer sign of ignorance exists than a conceited idea of great attainments. The more we know, the less we *think* we know. This is so the world over. Show me the youth who boasts how much he knows, and I will show you one who tells how little he knows. Learning humbles. Many years of hard study barely suffice to teach conceited mortals that they know and never can know but very little. The more I know of Phrenology and the nature of man, the more I see how much there remains to be learned. I repeat, plead ignorance wherever you can learn. And be *diligent* in acquiring knowledge, because when you are employing your time to the best advantage, you are yet but a novice in a knowledge of the laws and operations of nature.

Especially do not consider your learning days over when you go to some regular business, or marry, or when you have gathered a family around you. No one is too old to learn. Preserve health, and you can learn faster after thirty, forty, or even fifty, than before. I learn faster and more easily now than at any former period. I know the brains of most persons become sluggish by thirty, as far as the love of study is concerned; but it is all for want of use. Brain, unexercised, becomes lazy. Study is irksome to those who study but little. Not so when the brain is exercised habitually. As with the body, so with the brain; use gives suppleness, elasticity, energy. Begin some new business. At first you are slow, awkward, and inaccurate; but practice gives dexterity, nimbleness, and correctness. So with the brain. Then keep this instrument of the mind limber by exercise—by daily exercise. Will one meal last you a week? No. Nor should one intellectual repast

*Every human being should study daily.* It requires habitual study to acquire and retain mental discipline. Men make provision for health for physical provender, then why not for mental! Mind is the great function of humanity, so that its daily cultivation is as important as our daily food. I would not as do some students, starve the body in the pursuit of study. This would be 'killing the goose that lays the golden eggs.' But feed the body as the means of invigorating the mind. I neglect neither, because then both suffer. I would eat in order to study, and study just as uniformly as eat. But all eating and no studying—no wonder that man is so poverty-struck in intellect. Young man, young woman, let me beseech thee, let me implore thee, to take time *every day of thy life to cultivate intellect.*

'But I have no time to study,' say some. I answer, then *make* time. Mind stands at the head of our nature. Hence its improvement should take the precedence. It should not give way to other pursuits, but others should give way to this. Make mental culture your paramount business. Live to study: not to get rich, not to observe appearances, not even to support a family as families are now supported; that is, in making a good appearance. Your family could be dressed just as comfortably as now with half the money and half the stitches now required; and so of many other things. A few items:—

You drink tea and coffee—they injure all who drink them. They often cause sickness and consequent expense and loss of time, and always and necessarily impair mental and physical efficiency, and thus squander time. Then we waste our time in earning money with which to purchase them; waste time in their preparation; waste time in setting on and clearing off the tea set; and in the summer, waste time and fuel in building fires not otherwise needed. Discontinue their use, and you can save one hour each day to every member of your family for mental culture.

Do you take tobacco? It costs you five or ten dollars a year, perhaps, or may be, ten or twenty. Now, put this out at compound interest for twenty years, and you have a handsome dependence—an actual living. Or save the time required to earn this amount annually, and devote it to study, and what facilities it will afford for mental culture. Bear in mind every quid you put into your mouth, that you are eating up time which might be spent in the service of your mind. Now choose between the two. Rob your mind if you will still use this filthy, health-destroying stuff, but do not complain that you have no time for study.

Or you expend a far greater amount on your palate than nature requires. Sit down to a plain meal of bread and apples. You will enjoy it better than Vitellius did his thirty thousand different kinds of game at a meal. And this will not keep your wife drudging, half suffocated with the burnt smoke of the greasy kitchen, but give her time to cultivate her intellect in order to educate her children. But of this elsewhere.

'But my *business* crowds me.' Then do *less* business, or else do up in half the day what business you do in all the day, and devote to your intellect that part now sauntered away in waiting for customers. The great error of business men is this: they drive their business on to make money, and then squander this money in flipperies and artificial wants. Make less money, and spend what you *do* make on *necessaries*.

You pass a confectionery. In goes your hand into your pocket for a shilling's worth of cakes, candies, creams, and trash which feeds an already morbid appetite, overloads and deranges your stomach, and paralyzes your mind. Remember here are two destructions of time at one blow: the one, of the time spent in earning the money expended, and the other in its rendering you dull, feverish, and inefficient in mind and body, the last by far the greatest item. It even shortens life—another waste. Now save these three items of time, and add them to that saved from tea, coffee, tobacco, and the table, or else cease to complain of want of time for mental culture. Men lavish time on their backs and palates, but think themselves too poor to give time to their intellects. While lecturing in New Bedford, in 1844, a young man came



in to beg tickets for four lectures, alleging that he was too poor to afford them, though they were only six cents. My brother asked him how many cigars he smoked in a day, he then having one in his hand. 'About eight,' was the answer, for which he paid more than double the amount required for admission. After a good schooling the tickets were given him.

Then again, we *idle away* a vast amount of time. It is computed that if all would curtail extravagance, men might live in clover, as far as their natural wants are concerned, and labour only four hours per day. But set aside this estimate, if you will, and consider this subject in the light of nature's requisitions. She requires that intellect should predominate. This can be secured only by culture. Does she then really refuse time for the required mental improvement? Has she taken such unwearied pains to put so vast a range of earthly blessings within our reach, so that we have only to pluck and eat, and has she denied us this greatest blessing of all—time for *study*? Let us not blame nature, but our *own negligent selves*. She never meant that we should give all our time to our bodies. She meant that every human soul should study at least half of every day of life. And this would improve health and even prolong life. The admixture of labour and study tends to promote both. Oh! man, how foolishly dost thou squander thy precious time.

Another vast saving of time can be secured by increasing our efficiency. If we accomplish as much in an hour at one time as in a day at others we live as much in proportion. Now, by a proper regimen and observance of the conditions of health, we might augment our efficiency many fold. Keep your bodies in a state calculated to facilitate mental action, and three or four hours of study in a day will be amply sufficient, with the time allowed for reflection while prosecuting your daily avocations. Surely none are so poor that they cannot find at least *one* hour daily for mental luxury and discipline. If no other time offers take evenings. Not that I recommend night study; for it is injurious, except when the system is starved for mental action. The order of nature is to think, labour, study, moralize by day. By the time the sun disappears at night, you should have exhausted your physical and cerebral energy for the day, and be ready, after that recreation and relaxation so natural in the evening twilight, to seek that rest which shall supply you with energy for renewed labours when he rises again.

Still, if you really cannot save or make time for intellectual culture during the day, take it in the evening rather than not at all. Long winter evenings will give the labourer time for study—so will his allowed hour after dinner in the summer—though a bad time to study.

Still, far be it from me to sanction the modern effort to turn night into day by sitting up till midnight and sleeping after sunrise. The good old Yankee custom of retiring at nine and rising early is in keeping with nature's ordinances. All children should be habituated to retire with the sun and rise early; and most lectures, meetings, and the like should be held in the daytime instead of in the evening, when we are exhausted. Why give mind the mere drippings of the day?

But be your business what it may, you can find time for thought every day, every working hour. Employ your mind while you employ your hands. Labour and meditation are not incompatible with each other. Indeed labour actually facilitates meditation by promoting circulation, and thus augmenting cerebral energy. I never enjoy my mind more, am more delighted with those new thoughts which result from meditation, than while at labour. Work should never be so hard as to be irksome. It would then both allow you to do *more* work and to inquire into the operations of nature at the same time. Farmers, especially, should be students, and I rejoice in the growing attention they are paying to mental culture.

#### FACILITIES FOR STUDY.

Books should be multiplied a thousand fold, till they become the great commodity of traffic and commerce. But books require to be *improved*.

Trashy novels require to be superseded by works of sound sense and excellent instruction. Yet books should not be dull. A clumsy or insipid style in a scientific work is like rags on the goddess of beauty. The subject allows and requires all excellences and ornaments of style. Even a child's school book should equal Irving's "Sketch Book" for facility of diction. Blend the useful with the rich and reading may be rendered quite enchanting.

#### PUBLIC LIBRARIES.

Good books should be accessible to all. Private libraries are eminently useful, but public ones are also necessary. The poor require reading material equally with the rich. Let it be furnished. Let government advance funds for the purpose, and they will have less requisition for gaols and hangmen. As you *educate the people* you diminish crime. A hundred fold more effectual preventive this than punitive measures. Unite physical, intellectual, and moral training, and you extinguish crime almost altogether. Public reading rooms and circulating libraries are recommended as a *part* of public libraries. But we require *female* reading rooms. Women love to read, and should have equal access to this means of mental culture as men.

#### PUBLIC LECTURES

will also be found promotive of public intelligence and virtue. Let every village and neighbourhood have a splendid public room, attractively arranged and fitted up, and capable of holding "all the region round about," and then let Government employ lecturers, as it now does teachers, furnished with apparatus for illustrating the respective sciences on which they lecture, and let them spend their lives in the service. Let one man have anatomical models, drawings, and preparations, and let them teach anatomy and physiology—the value of health, the means of preserving it, and the causes of its destruction. Pay five dollars to this object, for the hundreds now paid to physicians for *trying* to cure, and few would be sick, and those who were would be able to doctor themselves. Strange that doctors have not enlightened the people touching the laws of health before this. But their neglect will prove their ruin, which many of us will live to see.

Let another public lecturer be fitted out with a phrenological apparatus—drawings, paintings, animal and human casts and skulls, and whatever else will illustrate or enforce his subject, and pass around his circuit periodically, lecturing on this science of mind, and telling parents how to manage this child, govern that, and educate the other, and in what occupations they will each succeed; as well as pouring forth that perpetual stream of advice which phrenology supplies in such rich abundance. Let him have the *mental philosophy*, and *morals*, and *ethics* of this science of man, so that the entire body politic may be imbued with its purifying, elevating doctrines. A powerful check would thus be given to vice, and incentives to public virtue and improvement be supplied.

Other lecturers should be employed and fitted out with apparatus for illustrating chemistry, natural history, geology, chronology, natural philosophy, mathematics, astronomy, and every other department of science and nature. The expense would not be great, and it would save a hundred fold in its amount.

These lectures should be especially adapted to the juvenile mind; yet what is well adapted to the young is adapted to adults.

I would, however, have good lecturers, men well informed on scientific matters generally, and perfectly familiar with that on which they lecture. I would recommend superior speakers,—good looking men, commanding in appearance, dignified, impressive, felicitous in style; such as would draw out all classes, especially the young, in delighted throngs, to hear them discourse

on nature and her laws, and incite in them an ardent desire to study these interesting subjects. Think you our youth thus educated would throng the country carouse, the disgusting groggery, or the demoralizing theatre?

Especially would I recommend lectures on elocution. Let children be taught to *speak*—taught by example, and by those whom they may safely imitate. I would make them all *good speakers*.

I would also recommend local teachers. They are indispensable. Let Government furnish these educational facilities.

Still, as the Government is too much occupied with tweedledum and tweedledee politics, and too busy scrambling after the spoils to care for the dear people, *individuals* must raise subscriptions and engage good lecturers.

On one other subject we require lecturers, namely, *government*. How long will republicanism remain demagogism? Talk about 'OUR RULERS'! *We, the people*, are the hereditary kings and queens of this mighty empire. But, too ignorant to govern ourselves, we pay a bonus to demagogues to hoodwink and lead us by the nose wheresoever they list. I would not incur the odium of favouring a monarchy, for I love republicanism as I love my life; but give me a monarchy if we must have *ignorance*. Republicanism with ignorance is rowdyism. Our nation is not yet enlightened enough to navigate the republican bark safely. It is time for those who love *republicanism* to rise and instruct the people, and thus renovate the Government now while they can. Give us good lecturers and books on government, and we will avoid both Scylla and Charybdis. Our Government is *new*, and we require to educate the people, its nominal conductors, in the affairs of state. I repeat, there is no salvation but in *educating the people*. And we must be 'up and doing,' or the seed time will be past. Organise an *honest enlightened party*, sufficient to hold the balance of power, and thus control the Government.

#### CABINETS OF NATURAL SPECIMENS

are also required in every town and district. To *learn* we must *observe*, and in order to do this we must have the THINGS to *look at*. Museums are very good as far as they go, but they are scarce, and conducted more to gratify a love of gain than to foster science. Still, in the absence of anything better, they are invaluable. Let all visit them often, and examine those specimens of nature's works which they contain.

But every town, if not district, should have its cabinet of beasts, birds, fishes, reptiles, and petrifications. There are specimens enough. They only require to be collected. Such collections should be made by means of Government. Individuals can do something, but Government could ransack earth, air, and water—the whole globe—and bring together the productions of all climes, and that for a less amount than is expended in electing a president, or supporting an efficient army and navy for a year. Give me twenty millions of dollars and I will furnish every town with a splendid cabinet of animate and inanimate nature. I will place in every neighbourhood a specimen of every animal and mineral of importance on the globe. I will open the bowels of the earth, and place before every inhabitant of the land representations of those animal races now extinct. All nature shall stand represented before all men.

To be more specific. On a recent visit to the mines at Carbondale I saw vast quantities of that slate which overlays and underlays the coal, bearing the most delicate and perfect imprint of those vegetables by which these immense coal deposits were formed. What a pity that we have no organisation for securing and disseminating these easily procured specimens.

When lecturing at Shanateles, I begged a stone, picked up in their lake, full of an extinct animal resembling an immense petrified grub. The lake abounds in these petrifications. Canal boats could be loaded with them at a trifling cost, and every school district supplied. Going from Watertown to Brownsville, you will see abundance of petrifications, and among the rest, of trilobites. They abound in Lockport. Every mountaineer knows of some mineral

deposits, whence cartloads could easily be brought to light and scattered over the Union. Give me the twenty millions of dollars annually lavished on the army and navy, for doing almost nothing, and I will institute a vast *depot*, to which all who will may send a barrel or more of such specimens as are found in their vicinity, and receive in return an assortment of the mineralogy, geology, and animalia of the *globe*, and with which towns and clubs could effect similar exchanges on the largest scale desired. I would have birds, now shot down by thousands and thrown away, bought up, stuffed, and either sold, exchanged, or given to these public cabinets. I would set school children to collect and label the mineralogical, botanical, and other specimens found in their vicinity, and thus lead them to study these sciences, and to exchange the fruits of their labours for complete scientific cabinets and apparatus. The zeal and emulation in prosecuting the study of nature thus excited can hardly be imagined; and the strong fraternal bonds thus entwined all around and throughout society would help to render all most happy. By this system of mutual and governmental exchange I would set the whole nation—all mankind—for I would extend this arrangement also to nations—zealously at work to collect those specimens of nature's productions now going to waste in all portions of the earth, and make all men enthusiastic *students of nature*.

Instead of employing those blustering, unprincipled politicians, now paid for their electioneering gammon by fat government offices, perquisites, and contracts, I would employ men of true scientific attainments, as well as moral worth; and search out, encourage, and bring forward deserving men now slumbering in obscurity because they lack the brazen face required to secure governmental patronage. To facilitate still further such collections, I would fit out exploring expeditions, and let seamen know that whatever specimens of shells, animals, minerals, skulls, and the like, they might collect, would be bought by Government. Think you the face of the earth would not be gleaned, and even her bowels searched, in order to obtain scientific specimens and natural rarities? I would employ competent artists to draw and engrave on steel, in the best possible manner, views of every important mountain, landscape, and city on the globe; and then furnish cosmoramaic views, if only through convex lens, in connection with each cabinet, so that children, by looking through them, could see a perfect representation of the geography and scenery of the whole earth. What if to get up a single engraving, say of London, Niagara Falls, or Chimborazo, should cost thousands of dollars—once done, good copies could be furnished on this immense scale at a trifling expense. Let each nation draw its own landscapes, and then interchange with each other. Teach geography by these and kindred means, and children, instead of playing truant or having to be whipped to school, would long for school time to come, so that they might partake of another intellectual feast. I would also furnish a magnificent globe to every school district, if not family, with *raised* representations of mountains and cities, the mountainous framework of the earth included, and depressed imitations of valleys, lakes, and seas. What if to get the first one just right should cost a hundred thousand dollars, or more; they could still, by being furnished in such immense quantities, be afforded at a mere trifle, and without any expense to Government except the loan with which to commence. I would get up geographical gardens at the great central points of our Union, of many acres, representing the mountains, streams, lakes, cities, animals, and productions of all nations—the tropical, of course, in greenhouses—so that a few days' *observation* would indelibly rivet on their susceptible minds a hundred fold more geographical knowledge than any one man now knows.

I would lay all nature under contribution, by way of furnishing educational facilities to every child and citizen in our land. Give me the twenty millions squandered yearly on warlike preparations, and I would educate the entire population better than any college graduate is now educated, and all 'without money and without price.'

'But you rob our country of its means of defence when you withdraw support from the army and navy' it is objected. By no means, but increase it ten fold. The defence of the country depends not in its standing army and navy, but on the *people*. What would our army and navy do by way of fighting our battles, say with England or France? Not a tithe of what would have to be done. Did a standing army achieve our independence? No, but *volunteers*. Pursue the course here pointed out, and every citizen would love his country as his life, and would fight to desperation and death in its defence. Soldiers would rush in from every valley and mountain and corner, eager to assert her rights. An army could thus be gathered in a week sufficient to conquer the whole world if it were arrayed against us.

The *true ends of Government* are now misapprehended and neglected. They should be to furnish these and kindred *educational facilities*, instead of enacting, only to 'expunge,' tariffs, sub-treasuries, bankrupt laws, and to charter banks, monopolies, and the like. Private expresses could transport the mail ten times as well as Government, and at a quarter the expense. Leave the *currency to itself*, and the people will take only what is good. The tariff is 'small fry' compared with public education. Criminal jurisprudence is now begun at the wrong end—is now based on fear, whereas it should be founded on love. Its motto should be 'An ounce of prevention is worth pounds of cure.' Pursue the system of intellectual education urged in this volume, and the system of moral training pointed out in the preceding, and you banish ignorance and crime.

The use to be made of these cabinets next deserves our notice. Thus scattered over the land, so as to be accessible to all, I would have them placed in those large public lecture rooms already recommended to be used by public lecturers, for the good of all, and especially by *female teachers*. Woman is the natural tutor of children. Her nature fits her for developing their minds quite as much as for nursing their bodies. Men may teach juveniles in their teens, but females should teach them up to their thirteenth year at least. And *mothers* make far better teachers than *maidens*, because maternal love inspires them with that interest in the advancement of children so essential to success. Let women take a flock of these dear creatures into one of these cabinets, and give them practical lectures from these specimens. Let her take to-day the crane, and after telling them all about its habits, and how and where it procures its food, builds its nest, and the like, show them how admirably it is fitted by its long limbs to wade in water, and stand till fish, snakes, frogs, and the like, swim along carelessly near it, so that by means of its long neck, it can dart its bill into them, and thus secure its prey and feed its young. To-morrow let her take up some other bird. Let her next take fishes, then butterflies, &c., &c., telling her pupils to turn about all nature, animate and inanimate.

This method of instruction would enlist both the eye and ear. Say, reader, does not this educational system harmonise with the *laws of mind*? And is it not infinitely superior to this sitting-on-a-bench system? Would it not excite and develop mind more in one week than the present does in years? I rest these views on the common sense of all, and plead for their general adoption.

Children should also be taught *history*, both local and general. Thus, in teaching them the geography of any nation or place, tell them also all that is known concerning the history, habits, modes of living, customs, laws, government, and peculiarities of their inhabitants. This will give them enlarged views of the true nature of man. Such knowledge of the practical workings of human nature would disclose many excellent customs and practices in savage and half-civilised life, and also expose many that are injurious among ourselves, and thus lead our youth to reflect upon what habits and customs contribute most to human happiness, as well as to general progression. This would furnish a most excellent discipline of Eventuality.

These cabinets should also contain drawings, casts, and skulls of *national heads*, so that their Phrenology could be compared with their characters. This

would also show what effects different climates have on character, as well as the effects of mountains and level districts, and much more of a kindred nature.

Nor should these things be taught to children merely, but to adults equally. Society requires to be remodelled, so as to allow every individual to devote a portion of each day to mental culture. Let labourers be paid more wages for less work, and be allowed and induced to visit these cabinets, and learn something new daily, as well as store their minds with materials for thought while at work. Especially should women, married and single, resort to those places of amusement and study, instead of wasting time at the toilet and over extra sewing. Young women should thus study nature as a means of preparing themselves for those educational duties which await them when they become wives and mothers. And mothers should frequent them both for the advantages of knowledge, and that they may teach their children, as well as for another reason, which will be explained in a forthcoming work on *Maternity*.

#### IS A COLLEGIATE EDUCATION DESIRABLE.

To this oft-repeated question the principles of this work answer—*not as now conducted*. Let the lives and practice of professional men bear witness. Does not a collegiate education tie graduates down with the shackles of antiquity, and thus chain society to the past, instead of 'pressing forward' in the road of *progression*? Few collegiate graduates become imbued with a truly scientific spirit—an independent love of truth. Almost all refuse to examine any subject not found in their musty books. They make very few important discoveries. These emanate from working men mainly. As Bacon's 'Principia' knocked forty years for admission into the 'seats of learning,' as Galileo was imprisoned by the pseudo-learned, and as Harvey's discoveries encountered their principal opposition from these same collegiate wiseacres, so Phrenology has been opposed mainly by the professions, and admitted much more readily by the common sense mass than by learned bigotry. The learned too often refuse even to examine its claims, and furnish by far the most inveterate sceptics. I submit the fact to general observation, whether of ministers, for example, those who have been ordained without having gone through college are not more open to conviction, less bigoted in opinion, and more ready to admit new truths, as well as more reformatory than collegiates. Doctors, too, are behind the age, and lawyers are tied down to ancient precedents, and too often blinded by prejudice. I submit the question whether collegiates evince that *love of scientific truth* which should always characterise the student of nature.

Yet there are exceptions. Hitchcock is one. He goes for truth instead of antiquity. His mode of instruction I cannot too highly recommend. Till he assumed the presidency of Amherst College I could not conscientiously recommend any college. Now I can. Amherst College will not thus trammel your minds, or bind you hand and foot in the strait-jacket of antiquity. Its cabinet, apparatus, and manikin, are also valuable, and its president will inspire you with a *love of nature*—the great basis of all education. I also think favourably of Oberlin, because it is not bound up in bigotry, and combines *manual labour* with mental discipline—a union which the entire tenor of these volumes recommends. Manual labour institutions have my unqualified approbation. They vastly facilitate mental action by physical exercise.

#### ASSOCIATION—MNEMONICS.

*Association* furnishes a powerful auxiliary to memory, and one devised by nature. Thus, in seeing, or even in calling to mind, a place in which certain events transpired, we instinctively recal what transpired there. We naturally associate the face of a friend or enemy with what they have done, so that recalling either brings up the other also. Hence, when Eventuality or any

other faculty is weak, its practical efficiency can be greatly strengthened by associating its function with some of the more vigorous faculties, so that their action shall call up the thing to be remembered.

Mnemonics are partially based on this associating principle, but they are too artificial—too far removed from that natural association or conjoint action of different faculties just recommended—to merit approval. They attempt to obviate the exercise of natural memory—the very thing which this entire work enjoins throughout. When art can excel nature, and human invention outdo divine, Mnemonics may be of service; but give me the memory created by God, instead of any system founded on art. As far as it taxes natural memory, it is all very well; but the more it relieves it by obviating its requisition for action, the more it weakens it. I have studied Gouraud's system—probably the best extant—and say with emphasis that nothing would tempt me to adopt it, to substitute artificial memory for natural. As well substitute an artificial heart, or muscle, or eye, for a natural one, except so far as it works *with and under* natural memory, and facilitates its *exercises*—that great agent of mental culture.

*Agriculture* should also be studied. The application of chemistry and science to enhancing the productiveness of the earth is full of interest, as well as laden with practical benefits. It also facilitates that *exercise* already shown to be indispensable to life and happiness.

*The study of Astronomy* should also be prosecuted by both juveniles and adults. It is not so difficult or abstruse as to prevent its being generally understood by all classes. The right kind of illustrations and instruction would enable all to understand its rudiments, the motions of the planetary system, its distances, and its leading facts and principles; as well as to predicate the *time* of day or night from the positions of the heavenly bodies. This many elderly people can now do, without ever having studied this subject a single hour, but merely from desultory observation. What exalted attainments are thou within our reach, provided this study is begun early, prosecuted vigorously through life, and facilitated by astronomical globes, drawings, instruments, and competent teachers? Would not the study of the starry heavens also awaken thrilling emotions of the sublime and infinite? The loud pealing thunder, the forked lightning, the gorgeous drapery of the twilight sky, the pouring rain and driving hail and snow, the northern lights, shining, rushing, roaring over our heads, the star-spangled canopy of heaven in a cloudless night, the immensity of space stretched out above, below, and all around, are directly calculated to inspire the soul with awe and adoration of that Infinite Being who created all things. Who can contemplate these manifestations of power and infinitude without bowing before Jehovah in devout homage?

*Anatomy and Physiology* should also be studied by adults and taught to children. The two sciences should never be separated. The functions of all the organs, and the various ends in the animal economy they subserve, should be studied in connection with their shape, structure, and location; because each will facilitate the other. Hence the value of that great modern invention, the 'manikin.' It obviates all the offensiveness of the dissecting room, yet enables all to see a correct representation of all the parts and organs of the human body. It especially enables *mothers* to learn the wonders of anatomy in order to teach them to their children. Put their fingers on your pulse, and increase their delight and astonishment by explaining the whole process of the circulation, and showing them from the manikin, the heart, the arteries and veins, by which it is effected. Still further exemplify your subject by dissecting those domestic animals slaughtered for your own use, or that of others. Ask them what becomes of the great amount of food they consume. Explain the office of the stomach, along with its shape and position, together with the whole process of digestion and nutrition. Show them how a sour stomach is produced, viz: by eating more food than the stomach digests; the food laying on the stomach till it ferments, thus leaving the stomach acid, which, by being frequently repeated, finally inflames and diseases the digestive apparatus.

What will delight or benefit them more than anatomical and physiological knowledge? Or what knowledge is more important than that of the laws of life and conditions of health? It will teach them to preserve health and prolong life. Put their fingers on the spine, and show them the working of its joints as the person bends backwards, forwards, and sideways. Explain that these motions are effected by means of muscles which constitute the red meat of animals. Show how the joints fit into each other, and work in each other. Clench your fist, and show the hardness occasioned by the contraction of the muscles and stretching of the tendons; and exemplify the same principle by lifting, walking, chewing, and other muscular exertions. Exhibit the brain and nerves: show their structure, and explain their uses, and illustrate what you say by showing them the brains of animals. Pursue this course with children, and, when grown up, men and women generally will know ten times more about these subjects than physicians, and in many cases will live almost twice as long and thrice as happily as now.

*The Study of Phrenology* also furnishes one of the best means of disciplining the mind, as well as elevating the moral tone and standard. What will equally promote *observation*—that great stimulant to intellectual action? Phrenology renders its pupils inveterate lookers. It stimulates Form to note and remember both the various shapes of the several organs, and those forms of body and face which indicate traits of character. It calls upon Size to measure the relative and absolute dimensions of the brain in general, and of each organ in particular. It also employs Weight in applying touch to the various organs, examining the density of the physiological structure and texture, and the like. It keeps Order busily employed in marshalling the various points of character in the order of their respective influences on the conduct, and in systematising observations and investigations. It calls Locality into vigorous action, as already seen. It promotes the action of Eventuality in remembering the respective functions of the various faculties, and their influences on character. It also furnishes delightful employment to Language in describing character. And few things furnishes more or better material for conversation than Phrenology itself, as those who have heard lectures on this science or studied it will bear testimony. It requires the incessant and concentrated action of Comparison to compound the various facilities in those perpetually changing combinations in which they occur in different individuals. And, surely, if any science excites Causality by presenting important laws and subjects for investigation, Phrenology is that science. Take this very work as an example of the perpetual round of thought suggested by Phrenology. All phrenological works abound in thought. Take ‘Combe on the Constitution of Man’ as an example. It strengthens intellect and Ideality, Veneration, Benevolence—every element of mind.

But the great lessons in humanity which it teaches constitutes its crowning excellence. How it exalts and expands the mind! How it unravels the whole web of the human constitution! It reveals the hitherto hidden mysteries of mind, and opens the window of science into its profound depths. It discloses the laws of human mentality, and thereby shows us how we must live in order to be happy, and by what violations of law our evils and sufferings are occasioned. It teaches universal truth, universal virtue, and universal philanthropy. Which of its students has it not imbued with an all-pervading desire to reform and perfect man? I speak not of those who merely admit its truth, but of those who have become imbued with its true spirit. Select its disciples from among our various towns and circles, and you select their cream—their best citizens for enterprise, talent, and moral worth. It especially teaches us ourselves—our faults, and how to obviate them; our virtues, and how to cultivate them. Before its mirror we

“See ourselves as others see us.”

It is also our spy-glass for discerning the characters of our fellow-men. It spies out the true and the deceitful, the wise and the simple. I would not



take the world for that power of reading character which it confers. Study this science ye who would acquire the very highest order of mental discipline, and learn the most numerous, the most delightful, the most practically useful lessons man can learn.

#### THE STUDY OF NATURE AS A WHOLE.

Let me not, however, be understood to recommend that prosecution of these sciences separately, which our separate mention of them might seem to imply. Nature is not divided and sub-divided into sections and patches. Astronomy is not one thing, mathematics another, mechanics, natural history, chemistry, anatomy, phrenology, and each so called science, another; but all are different parts of the same stupendous whole. All nature's operations blend like the colours of the prism. Thus chemistry and organic chemistry are one, and the latter blends with every species of organisation, so that chemistry and organisation are virtually one. Chemistry and physiology are substantially one; and magnetism combined with organic chemistry, sets in motion the vital laboratory of all that lives: nor ceases here, but keeps all worlds in perpetual revolution, as well as furnishes them all with the elementary principles of action, from insects to a universe of worlds. That magnetism forms the grand instrumentality of all human and animal motion, by means of those attracting and contracting, repelling and expanding powers, was shown in volume vii. of the American Phrenological Journal, and will be still further demonstrated in a forthcoming work on "Magnetism, Animal and Human." Thus, all hydrostatic, all mechanical, all electrical and galvanic, all astronomical, all chemical, and philosophical sciences, become merged into two elementary principles of matter, its magnetic and chemical affinities, both of which are doubtless one. And what is geography—the rivers, mountains, volcanoes, climates, and changes of the earth—but the ever-varying products of the same prolific principle? Then why not study them together, since they stand thus inter-related by nature? So, too, the study of human anatomy involves comparative anatomy. The same general features pervade both, yet vary according to the habits of the various animals which may form the particular subject of study.

In conchology we have that bony structure so essential to animal life, on the surface, whereas in the higher grades of animals it is internal. Yet the structure of all shell fish subserves a kindred purpose, as far as it goes, with the bony structure of warm-blooded animals. Then why not study these various osseous formations connectedly? Both geology and natural history should be studied in connection with anatomy, physiology, and phrenology, because all five are only different conditions of ORGANISATION as connected with different forms of mentality. All anatomists should be physiologists and phrenologists. All physiologists should be anatomists and phrenologists. All phrenologists should understand physiology and anatomy, and also geology, natural history, chemistry—UNIVERSAL NATURE in short. Study the vast and complicated operations of nature as inter-related to each other, and you will advance with ten-fold rapidity. Nature is illimitably comprehensive, and to study her we must give commensurate extension and scope to our examination of her works. True, she has *classified* all her works, but she has not *separated* them. We may view them in *ranges*, but never limit our vision to one or two *departments*. Let every reader prosecute daily, and through life, the study of Universal Nature.

#### STUDYING GOD IN HIS WORKS.

What better exhibition of the character and capabilities of any being can be had than that furnished by his works? In examining the products of Colt, the inventor of the revolving pistol and terrible exploding apparatus, we *correctly* infer that he possesses predominant Combativeness and Destructiveness. Thus saith also his Phrenology. But in examining the works of

Howard, we correctly infer the habitual and powerful activity of his humanity. Their characters differ as much as their works, and differ just *as* their works; the latter being the perfect counterpart of the former. Morse's magnetic telegraph has reference to the transmission of mind; and the work is but the embodiment of the author's character. Bigelow's inventions apply machinery to manufactures; thus evincing ingenuity, guided by intellect and controlled by Acquisitiveness. Astor's acquiring works harmonise perfectly with his acquisitive character. '*By their fruits ye shall know them.*' This is true of all mental productions. No man can produce what is not in him. Can the fool speak wisdom, or the philosopher folly? His very playfulness will be full of sense. Can those express fine feelings and elevated sentiments who have them not? Sensualists in conduct sometimes write fine sentiments, yet such have both the grosser elements and under current of elevated sentiment which the act of sitting down to write calls into the ascendancy. We give what we *HAVE*, and nothing else. Our superficial observation by no means always *reads* the outer manifestations of character correctly; but '*actions always reveal the man.*' As a man habitually *does*, so he *is*. This rule extends to all animals. The fox digs him a hiding place because he is secretive. His works are the NECESSARY PRODUCTS of his character. And thus of universal being. The Deity is not an exception. Nature is but a revelation of her Author. His works are the perfect embodiment and exhibition of Himself. All that *they* are *He* is. Are they infinite in variety and range? So is He. Are they all directed to happiness as their 'chief end?' He is Infinite Goodness. This provision for happiness is the almighty gushings of His benevolent soul. Are His works perfect specimens of mechanical contrivance and execution? Then the Infinite Architect of the universe is skilful in executing and wonderful in invention. Are His laws inflexible? He, too, 'hath no variableness nor shadow of turning.' Are His works inimitably beautiful and perfect, both in themselves and in their adaptations to one another? It is because He is Infinite Beauty and Perfection united. Oh! who can duly admire either the perfections of Nature or of Nature's God. Give me the eloquence of angels, and I will expend it all in discoursing on the study of '*GOD IN HIS WORKS.*' Can the devoted student of God, as manifested in nature, be other than devout? All nature is one vast system of Theology, one magnificent temple dedicated to divine worship, and every lover of its study is a devout worshipper at its shrine. To be truly religious is to be truly scientific, and to be truly learned is to be truly devout. Science and morality are parts of each other, and of one divine whole.

Enamour men with nature, and you enamour them with moral purity and holiness. Teach children God as manifested in His works, and they will revere His name and love His attributes as long as life remains. No child should ever be taught a fact or principle in nature without being taught thereby their *Author*. The priest and the schoolmaster should be blended in the same office and individual. The religious teacher should base all his appeals on conscience—all his addresses to the religious sentiments—on scientific facts and principles. By these means he would come down on the consciences of men with irresistible power. Science is tame without religion, and religion without science is a Samson shorn; but unite them, and they will save the world. May God teach us all Himself in His works, and by thus exhibiting His infinite perfections, fill our souls with gratitude for His goodness, adoration for His character, love for His attributes, and desire to learn more and more of His excellences, and become more and more like Him, throughout time and to all eternity!

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#### THE DEVELOPMENTS REQUISITE FOR PARTICULAR AVOCATIONS.

Though the work may now be considered as concluded, yet the application of this series of volumes to self-improvement would be incomplete unless

applied *specifically*, by way of pointing out the organs requisite to success in the various occupations of life. The right choice of a profession or business is of the utmost importance. Many readers still undetermined how to cast their destinies for life would be enabled to make a right selection by knowing what faculties are especially requisite to success in given avocations, and whether they have these organs. How many are tied hand and foot by being in a business which they cordially dislike, and in which they can never excel; but who, if pursuing some avocation to which they are by nature adapted, might hope to rise, whereas they can now never hope to attain mediocrity. Thus tied, their self-respect is mortified, their ambition blasted, their efforts paralysed, and their prospects cut off for ever, by the difficulties attendant on making the required change. All this might be obviated by ascertaining for what occupation their organs naturally qualify them, and for what they are unfit. This applies equally to the choice, by parents and guardians, of occupations for their children and wards, and to the choice of apprentices, clerks, servants, and the like.

But the occupation finally selected, how to rise in it is the next great object of inquiry. The answer is, 'cultivate those faculties which give success in the selected avocation.' Having already pointed out the means of cultivating the various faculties, it remains only to show what particular ones are especially required in particular kinds of business, to inform all what steps to take—what powers to cultivate—in order to promote the particular capabilities they or their children may require. To become

#### A GOOD TEACHER

requires an active temperament in order to prevent idleness, and to impart that vivacity of mind and quickness of perception so essential to enable him to awaken and develop the minds of pupils; large Perceptives, with large Eventuality, in order to give an abundant command of facts, and to pour a continual stream of *information* into their minds; large Language, to speak freely and well; large Comparison, fully to explain, expound, and enforce everything by appropriate and copious comparisons; large Human Nature, to find out the respective characters of each pupil, and to adapt instruction and government to their ever-varying capacities and peculiarities, that is, to know 'how to take them;' full or large and active Causality, to give them material for thought, explain causes, and answer their questions, and stimulate this inquiring faculty to action; good lungs, to endure much talking; only moderate Continuity, so that he can turn in quick succession, without confusion, from one scholar or thing to another; fairly developed Friendship, to enable him to get and keep on the right side of parents; large Philoprogenitiveness, to give that fondness for children which shall enable him to ingratiate himself into the affections of pupils; large Benevolence, to impart genuine goodness, as well as thoroughly to interest him in promoting their welfare; large Firmness, to give fixedness of purpose; fair Self-esteem, to promote dignity and secure respect: yet not too much, especially if combined with active Combativeness and Destructiveness, lest he become too arbitrary; and the latter organs must not be too large, lest they render him unduly severe, and induce him to try to *flog* learning or goodness into them; nor too small Combativeness or Destructiveness, lest he should become too inefficient; large Conscientiousness, to deal justly with his scholars, and to cultivate in them the sentiment of right and truth; a fully developed moral region, to stimulate their higher, better feelings; large Ideality, to render him polished and refined; in order that he may develop taste and propriety in them; and an excellent general head, because this occupation stamps pupils with the predominant traits of their teacher's intellect and character. He also requires that training or discipline of the faculties which shall give him the control over them, and much patience and self-government. Few if any avocations require more talents or moral worth than teaching. The idea that anybody can teach who can read, write, and cipher is altogether erroneous.

Let those who may select this avocation allow a single piece of advice. Make your pupils *love* you. This will obviate all requisition for the whip, yet give you unlimited influence over them. To do this, do not be austere, but affable, kind, good-natured, and familiar. Especially give them *good advice* as well as good instruction. Next to this, secure the good-will of their *mothers*.

#### A CLERGYMAN

requires the mental or motive-mental temperament, to give him a decided predominance of *mind* over his animal tendencies, and to impart the thorough and substantial to all he says and does; a large frontal and coronal region; the former to give him intellectual capacity, and the latter to impart high moral worth, aims, and feelings, elevation of character, and blamelessness of conduct; very large Benevolence and Conscientiousness, to render him truly philanthropic and disinterested, and make him willing to sacrifice personal interests upon the altar of human happiness, and to create a strong desire to make men *happier* by making them *better*; large Veneration, to imbue him with the truly godly and prayerful, so that he may excite these feelings in those around him; small Secretiveness, so that he may declare the whole counsel of God without daubing with untempered mortar, or hiding the truth in round-about expressions; small Acquisitiveness, so that he may care little for money as such, and be indisposed to barter and traffic—yet he should have a frugal wife and a generous people, so that he may not be embarrassed or distracted by pecuniary difficulties, but be enabled to give his entire energies to his work; large Adhesiveness, so that he may make all who know him love him, and thus win them over to the paths of truth and righteousness; only average Combativeness, so that he may be mild, yet enough to give force of character and great moral courage to dare to utter the whole *truth*, cut where it may; large Philoprogenitiveness, to render him interested in the moral improvement of children; full or large Ideality, so that he may not offend by his coarseness, but may please with his elegance of style and ease of manners and delivery; large Comparison, to render him clear and pointed, and to enable him to expound, explain, illustrate, and clear up knotty points, make himself fully understood, and carry conviction to the understandings of all; full Hope, to render him cheerful; large Language, to enable him to speak with ease and perspicuity; full Concentrativeness, so that he may impart oneness to his discourses—yet not too large, lest he may become prosy and prolix; a uniform, well-balanced head, so as to render him consistent in conduct and correct in judgment, and also excite the better feelings in those who come within the sphere of his influence. His great office being to develop the intellectuality and the morality of mankind—these elements should predominate in himself, so that these faculties in him may perpetually excite similar faculties in all around him. None but those who have superior moral and intellectual developments, along with an excellent physical organisation, should enter this calling. Their very office puts a mighty moral influence into their hands, which none but the good should be allowed to wield, lest they wield it for evil.

Large Veneration, however, is by no means indispensable to qualify one for this calling. Indeed, *reform* preachers should have less Veneration than Benevolence and Conscientiousness. If religious doctrines and practices were entirely right, the more Veneration the better, but they require to be reformed and improved, which too large Veneration prevents.

#### PHYSICIANS

require a strong, robust temperament, so that they can endure hardship, fatigue, and want of sleep and food, and stand all weathers and immense labour; large Perceptives, so that they may study and apply anatomy, physiology, chemistry, and botany with skill and success; large Benevolence, so

that they may really desire to alleviate suffering; fair Destructiveness, lest they shrink from inflicting the pain requisite for cure—yet not too large, lest they become harsh and inflict unnecessary pain; large Constructiveness, to give them skill in the surgical part of their business; large Amativeness, to render them favourites among women—a faculty in which they generally abound—yet not too much, lest they abuse their required intimacy; large Philoprogenitiveness, so that they may get on the right side of children; large Combaticiveness, to render them resolute and prompt, and to give them presence of mind; large Cautiousness, to render them judicious and safe; and a large head, to give them power of mind. Physicians, too, more than any other class, require that liberality of views, that openness to conviction, which shall allow them to keep up with the times, and all improvements in the healing art that may be made. No other art is more imperfect or more imperiously demands reform and advancement.

## LAWYERS

require the mental or mental-vital temperament, to give them intensity of feeling and clearness of intellect; large Eventuality, to enable them to recall law cases and decisions, and to recollect all the particulars and items of the case; large Comparison, to enable them to put together and compare different parts of the law and evidence—to criticise, cross-question, illustrate, and adduce similar decisions and cases; large Mirthfulness, to enable them to ridicule and employ the *reductio ad absurdum* in argument; large, or very large Combaticiveness, to make them love litigation and encourage strife, instead of reconciling parties; large Hope, to make them expect success and confidently promise it to their clients; small Veneration and Marvellousness, and large Self-Esteem, to make them well-nigh impudent, and enable them to brow-beat and deny; large Combaticiveness, Destructiveness, and Mirthfulness, to render them sarcastic, cutting, and biting in their repartees; large Acquisitiveness and Self-Esteem, to make them think their services particularly valuable, and thus exact large fees; large Secretiveness and less Conscientiousness, so as to allow them to engage in unjust causes without scruples, and wrong their opponents out of their just dues, by quirks of the law, whenever possible, as well as to plead a bad cause, and violate truth with a hard face; large Language, to give them a limber tongue, so that they can talk much yet say little, and substitute verbosity when they lack argument; large Ideality, to supply the place of facts by ingenious suppositions and a fruitful fancy; a practical, showy intellect, but not high moral head—yet abundance of selfishness and gammon. I speak now of common lawyers, and of law as now practised, in which a palpable want of truth and justice is too apparent to require proof; and I here recommend no one to study law who has high moral feelings, and wishes to retain them; because the very nature of this calling tends to blunt them. They will also be required to do much that is revolting to all our better feelings, or else to lose clients. Those who would rise in this avocation must make up their minds to pocket their consciences, and encourage hard-faced selfishness.

Yet we require a total change in both law and the way it is practised—we require *honest* lawyers—now a scarce article indeed. The sole end of all law should be to secure *rights* and prevent wrongs. Such ends require little selfishness, sound judgment, and predominant moral sentiments. Yet such lawyers try very few causes, but generally bring the parties to a mutual compromise and reconciliation beforehand—ininitely the preferable course, and one which lawyers should always recommend and try to effect, however it may diminish their fees.

## STATESMEN

require a temperament of much power to give strength of mind, and a large and well-balanced intellectual lobe, to enable them to see through great public

measures, and choose the best course, together with high narrow heads, to render them *disinterested*, and seek the *people's* good, not selfish emolument. Few callings require better men, or more general philanthropy; yet few have less. I hardly know the politician who has a superior intellectual and moral head. Many have intellects, yet few have high moral feelings. Politicians are usually a most selfish, artful set, and must be so to adapt themselves to politics as now conducted. Still, good men should engage in them so as to reform them; yet such will meet with poor encouragement.

#### EDITORS

require a strong and active temperament and brain, in order to enlist and interest their readers, carry them along with themselves, and describe well; large Individuality and Eventuality, to collect and disseminate incidents, facts, news, and general information, and give a *practical* cast of mind; large Comparison, to enable them to illustrate, explain, expound, criticise, pick flaws, show up opponents, and the like; full or large Combativeness, to render them spirited and ready for conflict, as well as to put force and energy into their writings, and a good moral organisation, so that they may promote morality and general excellence; large Language, to render them spicy, racy, and facetious, and enable them to ridicule what is absurd; large Ideality, to give taste and elevated sentiments; and large Language, added to a flowing, elegant style, and a happy talent for description; and, if they read proofs, large FORM, to spell correctly, and detect typographical errors.

Yet different organisations are requisite in editors of different things. Thus, a political editor requires a very different organisation from a scientific editor. The former requires a much less powerful organisation and brain, and more practical talent; yet less of the profound, deep, investigating, and substantial. Editors of scientific works require a large intellectual lobe, large reflectives, especially Comparison and high moral sentiments, so that strict TRUTHFULNESS may characterise their version of all they write.

#### AUTHORS

require the mental-motive temperament, to impart great strength combined with great activity of mind, together with clearness, force, and impressiveness; high and strongly marked heads, to enable them to pen what is worth perusal and re-perusal; well balanced heads, so that they shall take consistent and correct views of subjects; especially large and evenly balanced intellectual lobes, so that their ideas may be sound, comprehensive, and consistent; large moral organs, to infuse elevated moral sentiment into all they write; especially predominant Conscientiousness, to give them the highest and the strictest regard for truth; full Marvellousness, to give them an intuitive perception of universal truth; smaller sensual propensities and little selfishness; more especially large or very large Comparison, to give point, clearness, appropriateness, and keen discrimination in the use of words and arrangement of sentences and thoughts; fair Language, but less than Intellect, that they may be able to condense; great Ideality, that their sentiments may be pure and diction elevated; large Veneration, that they may inculcate religious worship; and predominant Benevolence, in order to write so as to benefit mankind. In most kinds of authorship large Causality is indispensable, yet not in writing tales or compiling events. Indeed, the tasks of few are equally laborious, and none require stronger intellectual capabilities, or a higher tone and more elevated standard of moral character and conduct.

#### PUBLIC SPEAKERS

require a predominance of the vital-mental temperament to inspire them with the ardour and enthusiasm required to enlist the feelings of an audience; a highly wrought organisation, to give them pathos, clearness, and a flow of

ideas and feelings; large social organs, to give them access to the feelings if not affections of listeners; large Combativeness, to infuse life, positiveness, and spirit into what they say; not too much Secretiveness, lest they become ambiguous and unwilling to open their whole souls; neither too much Cautiousness nor Veneration, lest they become embarrassed, nor too little, lest they become reckless and impudent; large Approbativeness and Self-Esteem, to render them aspiring, and dispose and enable them to 'lead off'; large moral organs, to purify and elevate their ideas and conceptions; large Ideality, to give them brilliancy and fertility of imagination, and refinement of sentiment, purity of feelings, and an elevated style; large Imitation, to enable them to mimic, describe, and impart the life-like to their efforts; large Mirthfulness, to render them amusing and full of the ludicrous, with large Eventuality, to intersperse a great variety of illustrative anecdote, give them a full command of their subject, and enable them readily to throw their ideas into shape, as well as to give them the required detail and amplification; large Individuality, to render them specific and distinct, and enable them to personify and set matters before their audiences as if speaking present realities; large Language, to give them a ready command of words, and a flowing, easy, happy delivery, and with Eventuality, Ideality, and an excitable-temperament, to render them eloquent and impassioned; together with large or very large Comparison, fully and appropriately to illustrate every idea, and render all they say apt and appropriate; and large Agreeableness, to render their 'mode and manner' acceptable and taking; and large Human Nature, to enable them to catch and control the minds of the audience, along with a superior temperament and large moral and intellectual lobes. None but good men should dare to become public speakers.

## POETS

require the highest order of both temperament and development. Poetry depends more on the physiology than the phrenology. It consists in a spiritual ecstasy which can be better felt than described. Not one in many thousands of those who write verses have the first inspiration of true poetry, yet to detail the conditions requisite for this avocation would unduly protract.

## LECTURERS

require fine, active, and yet strong organisations; full intellectual lobes; especially fulness from the root of the nose upwards, together with high foreheads, to give them facts and thoughts in abundance; large Language, to render them fluent and copious; amply developed Ideality, to render them refined and eloquent; sufficient Self-Esteem, to prevent diffidence and impart dignity, yet not so much Approbativeness as to render them vain or egotistical; a high coronal region, and large social organs, so as to make friends; good Combativeness, to impart spirit and efficiency to both manner and matter; not too much Cautiousness nor yet too little, and in general, well balanced heads. Yet here, too, lecturers on different subjects require different organisations.

## THE PHRENOLOGIST

requires a temperament of the highest order, exceedingly quick yet strong, to impart both mental activity and power, and enable him to run rapidly yet correctly through the vast multiplicity of conditions which go to form character; great strength of organisation, to apply his energies with great power to the work in hand; an ample intellectual lobe, to give power of mind, and, in connection with the required activity, to impart cogency, pointedness, efficiency, and distinctness; an evenly balanced intellect, so that he may take into full account all those conditions which influence character and conduct; great Individuality, so that he may perceive those conditions at one glance.

and see all that can influence his ultimate conclusions ; ample Eventuality, to remember all he observes ; great Comparison, to combine and comprehend all the relative sizes of all the organs with each other, and with the existing temperament—a truly Herculean labour, and one which requires the utmost tension of this faculty ; a copious flow of Language, to facilitate description, and convey the results arrived at ; good Mirthfulness, to spice the whole with the lively and exciting ; good Causality, to investigate and present the great principles and general bearings of its philosophy ; not too much Secretiveness, lest he become ambiguous, and avoid direct declarations ; large Philoprogenitiveness, to gain him the good-will of those children he may be called upon to examine, so as to render his advice acceptable, and dispose them to follow it ; large Benevolence, thoroughly to interest him in the welfare of his patrons, and impart advice wherever required, as well as to apply this science to human improvement and happiness ; and a high coronal region, so as to inspire him with high moral feelings, and give all he says and does an elevated moral aspect ; together with the strictest sense of justice and a well-balanced head, especially intellect ; because, as he is so will be his examinations and views. Predominant Causality and deficient Individuality render him too slow at arriving at conclusions ; yet this organisation is not incompatible with his making excellent examinations, provided the required time is taken.

#### MERCHANTS

require much sprightliness and activity to enable and dispose them to move easily and rapidly, and prevent indolence ; large Acquisitiveness, to impart a desire and tact for making money, driving bargains, buying, selling, exchanging, and handling money ; large Hope, to promote enterprise, yet not too large unless checked by Cautiousness, lest they buy more than they can pay for, and dip so deeply into speculations as to fail ; at least full Cautiousness, to render them provident and safe ; large Perceptives, to give quick and correct judgment of the qualities, textures, nature, and like properties of goods, and enable them to buy and sell well ; large Ideality and fair Colour, to give them correct taste and good judgment of colours : good Calculation, to impart rapidity and correctness in casting accounts ; large Approbativeness and less Self-Esteem, to render them courteous, polite, affable as well as emulous to please and excel ; small Continuity, so that they can go from one customer to another and back without confusion, and transact correctly a great multiplicity and variety of business in a short time, though interrupted ; full Adhesiveness, to enable them to make friends of customers, and thus retain them ; full Constructiveness, to impart mutual dexterity in packing, unpacking, and wrapping up goods and tinkering up things about the store ; fair Secretiveness, to give a due degree of policy, and keep to themselves what they do not wish to divulge ; good Conscientiousness, so that they may deal fairly and adopt the 'one price' system—yet as this business is too often conducted, conscience is only in the way, and must be kept in their pockets—and a practical, active organisation is requisite, rather than one of power or depth.

#### MECHANICS

require strong constitutions, with a predominance of bone and muscle, to give them the required muscular power and love of labour, and enable them to endure it, as well as impart strength and durability to their work ; large Constructiveness and Imitation, to enable them to sharpen and use tools with dexterity, make after a pattern, and easily learn to do what they see done ; large Perceptive faculties, to give the required judgment of matter and its fitness and physical properties ; the larger Causality the better, so that they can take advantage of their work—plan, adapt means to ends, contrive, 'make their heads serve their hands' invent, begin at the right end,



and know how to take their work ; large Firmness and Combativeness, to give them that force, resolution, and indomitable energy, requisite in overcoming that perpetual array of obstacles met with in all kinds of work, and accomplish what they undertake ; large Calculation, to enable them to make all kinds of calculations requisite in their several branches of the mechanic arts ; large Order, to keep their tools all in their places, and to impart method to both what they do and how they do it ; Ideality, greater or less according as their work is fine or coarse ; full or large Acquisitiveness, to interest them in what they do, render them saving of materials and economical of both time and property, as well as good at bargains and desirous of making property, and other organs according to the particular branches they follow.

The lighter kinds of mechanical avocations, such as goldsmiths, tailors, and the like, require less muscular strength and power than builders, whether of houses, ships, bridges, and other heavy works which require great durability and resistance. Indeed, such should not have a large vital apparatus, because it would render them unwilling to endure the required confinement. They also require more of that taste imparted by Ideality. Shoemakers, on the other hand, should possess strong constitutions, yet do not necessarily require much Ideality or Imitation, or Causality, but require Inhabitiveness, to make them love their benches as their homes. But the reader can easily carry out these differences for himself.

#### ARTISTS

require a highly organised temperament—one exceedingly fine and active, as well as pure and elevated, the mental-vital being the best—together with very large Form, Size, Imitation, Constructiveness, and Ideality, to enable them to draw and copy to life, and also impart taste and finish to their productions ; large Order and Perceptives generally ; large Moral Sentiments, to impart moral tone and elevation ; full or large Approbativeness, to make them ambitious and emulous to excel ; and large Comparison and Human Nature. In other respects they require the developments requisite for mechanics, except that Calculation and Destructiveness are by no means indispensable in most of the fine arts.

#### PAINTERS

require, besides the organs requisite for artists, large Colour, to enable them to judge of, mix, and apply colours with accuracy and beauty ; large Mirthfulness and Language, to enable them to amuse their customers, and thus give them a pleasant expression of countenance for transfer to the canvas ; predominant Imitation, to render their pictures life-like ; and especially large Ideality, to give an exquisiteness and air of elegance to both the colouring and the entire picture. Amativeness should also be large yet unperverted. They require a rare organisation. Many can draw, engrave, and the like, yet few can *paint*.

#### FARMERS

require the motive, or the motive-vital, or vital-motive temperament, to make them fond of work, and enable them to endure it ; large Constructiveness, to enable them to use farming utensils ; large Inhabitiveness, to make them love their farms, and be contented at home, with some Approbativeness, to make them take some pride in improving and adorning it ; large Philoprogenitiveness, to make them fond of children and of feeding and rearing animals,\* and improving their breed ; large Adhesiveness and Friendship, to render them neighbourly and obliging ; a good Intellect, to give them the intellect requisite to manage and arrange matters, and dispose them to improve rainy days and

\* The lower portion of this organ gives a fondness for pet animals ; the upper, for our own children.

odd spells in study ; large Acquisitiveness, to render them frugal, industrious, and thrifty ; large Order, to keep all things in their place ; and a good development of the Perceptive faculties, so that they can judge accurately of land, crops, and the value and uses of things. The developments requisite for good farmers do not differ essentially from those requisite for mechanics of the heavier kind of business.

Gardeners require a similar organisation, with large Ideality, Form, Size, and Colour.

#### ENGINEERS

require much the same organisations as farmers and the heavier mechanics, and especially large Form, Size, Constructiveness, and Cautiousness. In addition, civil engineers require in particular large Calculation and Locality : and mechanical engineers require fully developed Weight, and the vital-motive temperament.

#### SEAMEN

require strong constitutions ; a predominance of the muscular and vital temperaments ; great Combativeness, Destructiveness, and Firmness to give force of character, intrepidity, courage, and presence of mind in times of danger ; large Cautiousness, to render them safe ; large Alimentiveness to enable them to relish plain food ; large Perceptives, especially Form, Size, Weight, and Order ; and commanders require efficient Causality.

#### LANDLORDS, BOARDING-HOUSE KEEPERS, AND COOKS.

Landlords require the vital, good-natured, enjoying temperament, so as to contribute to the happiness of all around them, and take vexations coolly ; large Friendship, to keep their customers by making them feel at home, together with large Benevolence, to render them kindly disposed, attentive to the wants of guests, and willing to serve ; fair Acquisitiveness, in order to make a living ; larger Approbativeness than Self-Esteem, to render them more complaisant and familiar than distant or haughty ; large Amativeness, to render them polite and acceptable to the other sex ; and more especially large Alimentiveness, to render them good caterers for the table, because those who love the good things themselves will both know when things are good, and insist on having them good—the great secret, after all, of getting and retaining this sort of custom.

Cooks also require large Alimentiveness, to give them a relish for savoury dishes, in order to induce them to make food palatable. Those who have small Alimentiveness have no success in culinary matters. They also require large Acquisitiveness, to 'save the fragments,' if it is only with which to feed the poor. A leading element of a good housekeeper is being a good cook, that is, having a hearty appetite.

#### PRINTERS

require full or large Continuity, to enable them to keep steadily at their work ; full or large Acquisitiveness, to give them industry ; large Constructiveness, to give them manual skill and dexterity ; large Form and Size, to render them correct in spelling and good proof readers ; large Order, to keep things in their places ; good Calculation, and the more Intellect the better.

#### MILLINERS, SEAMSTRESSES, FANCY WORKERS, AND THE LIKE,

require much activity, to impart industry, nimbleness, and dexterity ; large Continuity, to facilitate their steady application to the matter in hand ; large Constructiveness, to give them the required 'sleight of hand,' 'know how.'

and skill in all kinds of sewing; large Imitation, to enable them to make after a pattern; large Ideality, to give them an air of neatness and taste to their work when it is done; good Form and Size, to aid them in fitting, and making garments sit well; good Acquisitiveness, to render them saving of materials, and enable them to cut in as saving a manner as possible; and fair intellectuals, to enable them to bring mind and judgment to their tasks. The finer the work the more Constructiveness, Ideality, Imitation, Form, Size, Colour, and Order are required. These, together with a quick and vigorous Intellect, are particularly requisite in milliners, mantua-makers, and the like who conduct business.

Factory operatives require amply developed Constructiveness, Weight, and Continuity, along with good general health. No female should either sew or work in the factory for a livelihood till past thirty; that is, till their constitutions are fully matured.

Having thus shown what developments are required for success in the most common avocations of life, the reader is now furnished with samples or data from which to decipher the organisations required by other occupations. It should, however, be observed that some organs should always be large, be the occupation what it may. Firmness, Benevolence, and some others should always be amply developed. The more intellect the better in all kinds of business, because mind facilitates the accomplishment of whatever we undertake. High moral sentiments, too, should be possessed by all, whatever be the avocation; nor should any business be prosecuted which is incompatible with their required ascendancy. Though some pursuits are impeded by a full development of some organs—as mercantile by large Continuity, legal by large Conscientiousness, and thus of some others; yet such exceptions are rare, and the general rule is that the larger any and all the organs, the better for any and every occupation. Yet some organs are indispensable to success in some pursuits, while others may be deficient without essential injury. Nor can any engage in any pursuit for which they are not naturally qualified, without incurring the penalty of failure and dislike; for we like those pursuits for which we are naturally fitted, and dislike those for which we are not. And those who are qualified for particular avocations, should not only engage in them, but also habitually cultivate those faculties required by their respective callings, in order thereby still further to perfect their capabilities and enhance their success and happiness.

#### IN CONCLUSION,

let us all improve to the utmost limit those God-like gifts conferred upon us by nature. Improve them on our own account, that we may reap perpetually an ever increasing harvest of happiness. Nor merely for our own sakes, but for the good of our fellow-men. In this republican land the talents of all her sons become *public property*. The gifted have no *right* to deprive their fellow-citizens of the benefits of their capabilities. To do so is robbery. But above all let us bear in mind perpetually our accountability to the *Author* of these transcendant endowments for their cultivation and right exercise. Shall we continue to crawl when he has capacitated us to fly?



# HEREDITARY DESCENT.

## CHAPTER I.

### PHYSICAL QUALITIES HEREDITARY.

#### PARENTAGE—ITS REPRODUCTIVE EFFICIENCY.

PARENTAGE perpetuates our race. It not only repairs the ravages of death, but far outstrips him, and rises above him, defying his power to limit the multiplication of the species. Man will multiply, the earth will be replenished, in spite of him.

What magnificent results from an arrangement so simple! Regions but yesterday desolate, to-day are beginning to be peopled, and anon will be crowded with homes, hamlets, villages, and cities, swarming with millions, and teeming with life and happiness. It plants its seed of humanity upon solitary islands, and fills them with throngs of busy occupants. It sends its hardy progeny almost to the icy poles to multiply in spite of all that is terrible in cold. Anon it takes possession of the tropics, still urging on its process of propagation, amidst scorching heat. In short, wherever life can be sustained, thither does this prolific principle send its swarming offspring.

Parentage also ushers in the connubial, parental, and filial affections, together with all the domestic ties. But for it, the delightful relations of husband and wife, parents and children, and all the heaven-born pleasures of domestic life, would have no existence. Annihilate parentage, and you blot out all the tender yearnings of connubial love, all the fond delights of parental endearment, all the pleasures of infantile and juvenile provision and guardianship, and thus extinguish a cluster of the holiest and happiest emotions that mortals can experience.

#### REPRODUCTION GOVERNED BY LAW.

Nor is this reproductive process left to chance. In common with every other department of nature, it is governed by immutable law. All the regularity and uniformity of causation govern all its products, whether vegetable, animal or human. But for this uniformity, some horses might have feet, others none, and others a thousand. Some human offspring might have heads, hearts, and muscles; and others neither. Our world would be a perfect bedlam. As it is, however, every member of the human family has the same number of bones, muscles, limbs, and organs, and the same general appearance, together with more or less of every primary mental element; or in other words, a kindred physical and mental constitution.

It nevertheless allows a beneficial diversity of form, stature, character, and capability; hence some are born with certain organs larger, and certain faculties stronger, than others; so that though all have eyes, hands, feet, and the like; and though all have reason, affection, and all the primitive mental elements, no two are exactly alike either in shape or character.

#### LIKE BEGETS ALIKE.

This great law is summed up in the great arrangement, that all things shall bring forth "after their kind." The product of the oak is an acorn, which produces another oak; and thus of beasts and human beings. But for this law of resemblance of products to their parentage, the farmer might plant corn and reap thorns—might sow stones and raise cattle; and the offspring of human beings would be as liable to

resemble beasts, or trees, as their parents. But this institution causes children to inherit the natures of their parents, and ALL their constitutional peculiarities.

Let parents learn and remember then, that their prospective children will be the images of themselves, reflecting all their shades of feeling and phases of character—inheriting similar tastes, swayed by similar passions, governed by kindred sentiments—debased by kindred vices—ennobled by kindred virtues—adorned by kindred graces, and endowed with similar powers—great, or good, or bad—happy or miserable, as they themselves may be. To the elucidation and enforcement of this great truth, this work is devoted.

#### THESE CAUSES WITHIN HUMAN CONTROL.

Men study and apply these principles in planting seeds, selecting soils, and improving their breeds of domestic animals. They know how, by such application, to secure fleetness, strength, beauty and other qualities in horses; fattening properties in swine, fine wool in sheep, spirit and fattening predispositions in fowls and the like. So fully do they understand, and so effectually apply these laws in these lower departments of being, that they can predict with certainty beforehand, whether the prospective foal is to be a mule or a race horse, whether the lamb is to be black or white, whether the calf is to be a Durham or any other breed. Now since those same laws which govern transmission throughout the brute creation, govern human transmission, man may of course apply them to the production of whatever physical or mental qualities in offspring he may desire—may render his prospective children strong, healthy, sprightly, beautiful, intelligent, moral and the like, as he may choose—may render them amiable or revengeful, proud or humble, coarse or refined, mathematical, mechanical, benevolent, reflective, or whatever else he pleases, and even predict, to some extent, their respective characteristics before they see the light. Parents can so unite in marriage, and so conduct themselves after, as, to a great extent, to render their offspring short or tall, diseased or healthy, deformed or well formed, long-lived or short-lived, peaceful or pugnacious, timid or courageous, honest or unjust, ingenious, musical, witty, acquisitive, communicative, poetical, logical, oratorical, profound, or whatever else they may desire. Those who doubt this, either deny that laws govern this matter of transmission, or else deny that man can see and apply those laws; and to deny either is to deny our senses.

#### BENEFITS OF SUCH APPLICATION.

All know how much the breed of stock has been improved by this application. Men have profitably expended thousands of dollars for a Durham calf, and that farmer who neglects his seed or stock, is left behind.

The advantages to be derived from applying these principles to HUMAN improvement, as far exceed all others, as man excels the brute. If he can derive benefits from improving his stock, how much greater by improving his CHILDREN. Mere animal improvability is confined to a few elements, and those mostly physical; the human being not only embraces a far greater number and variety of physical excellencies, but a vast range of intellectual powers and moral capabilities. The greater number of man's mental faculties, especially when taken in conjunction with his physiological elements, allow a proportionably greater number of changes in humanity, every one of which may be an IMPROVEMENT. All these improvements cannot be combined in one person, but they may be effected IN THE RACE. And many of them can be blended in every individual, and every improved organ improves all its combinations, which amount to many MILLIONS.

Behold, O parents! the destinies of your PROSPECTIVE CHILDREN are thus placed within your control. You are, in fact, compelled to control them. Your children are obliged to be what you are. They cannot help themselves. Can you know this, and yet be indifferent to your duty? Will you not wish to learn what parental conditions in you will render them the most perfect and happy? Then study and apply the laws and facts set forth in this volume, and in the work on "PARENTAGE."

#### THE HUMAN ANATOMY AND PHYSIOGNOMY HEREDITARY.

The hieroglyphics and likenesses handed down to us from past ages, show that man retains at present the general form and features which he possessed in earlier ages. They prove that he has always been endowed with his present upright posture and general aspect and mien—that he has always possessed the same form and

position of head, nose, eyes, cheeks, mouth, chin, hair, arms, feet, and the general physiognomy and anatomy now found in all mankind. To attempt to prove this would be superfluous, because all admit it. Yet this admission presupposes the TRANSMISSION from our first parents of all our physical organs and functions. What else, but transmission, governed by uniform laws, could have secured a sameness so extended in duration, so vast in extent, and so perfect in detail? And this same law assures us that these characteristics of humanity will be handed down as long as the race exists.

#### THE COLOURED RACE.

Human beings are divided into races, each of the members of which are characterised by physical peculiarities which distinguish them from individuals of every race. And all these peculiarities are hereditary. Of this the well-known characteristics of the Africans furnish an example.

The colour of this race is hereditary and descends to every individual, even in all their crosses, in proportion to the amount of African parentage. Their mode of moving and walking, their tones of voice, their manner of laughing, their form of nose and mouth, the colour of their eyes and teeth, and other peculiarities, are hereditary. In all ages and climes, the members of their race have borne these marks of their origin.

Another mark of African descent is this. All pure-blooded Caucasians have a division or furrow in the gristle of the nose, plainly discerned by touch, while Africans and Mulattoes have no such separation.

#### THE INDIAN, CAUCASIAN, AND OTHER RACES.

The physiognomical and physical characteristics of the Indian race are also hereditary. Their copper colour, high cheek-bones, wide mouth, straight black hair, light beard, prominent bones, sunken eyes, para-toed gait, and Indian aspect, all descend from father to son, and appear in all their crosses, in proportion to the amount of Indian mixture. Who ever saw curly hair on a son of the forest? Or a Caucasian face on a red man's shoulders? Or an Indian body with Malay features? All such diversities the hereditary law under discussion prevents.

The Caucasian characteristics are so strongly marked as to be easily and universally recognised. That the Caucasian characteristics are transmitted is too obvious to require proof.

Of the Malay and Mongolian races, these same general principles and facts are equally apparent; but as the truth of our subject is liable to no rational doubt, enlargement is unnecessary.

#### NATIONAL FEATURES.

Not only can any Caucasian, Malay, Indian, Mongolian, or Tartar, be instantly recognised by their feature and complexion, but individuals of nearly every nation. Every shrewd observer knows an Irishman, a Scotchman, a Frenchman, a German, a Russian, a Turk, a Spaniard, and the like, the moment he sees them. This general fact is too obvious to require comment. And that their respective physiognomies are hereditary, admits of no manner of doubt; because a child born in America of Irish or German parents, will resemble the physiognomy of its nation almost as much as if born in the land of its parents.

But probably the most striking and extensive exemplification of this doctrine of the descent from parents to offspring of physiognomical peculiarities is to be found in the Jewish physiognomy. Every Jew bears so close a resemblance to the national stamp of face, that this origin can easily be determined. A knowing observer can select every Jew, however dressed, from among many thousands congregated from all nations.

#### FAMILY LIKENESSES, STATURE, ETC., TRANSMITTED.

Family likenesses everywhere abound. Women are shrewd observers, and one of their first observations respecting infants is, that "This child looks like its mother," "that babe is like its father;" "the other is like its grandmother;" and another is "like its uncle, or aunt, or cousin;" and such is generally the fact. Probably every child, and all human beings, resemble some ancestor or relative in their forms of face

or body. So universal is this resemblance, that people often ascribe the paternity of children whose fathers are not certainly known, to those whom the child resembles in looks and action. And this resemblance is often too close to leave room for doubt. Hence, too, the portraits of descendants resemble those of their ancestors. If one ancestor had red hair, red hair will appear, every now and then, in every succeeding generation, and be more and more prevalent, in proportion to the animal vigour of that ancestor.

#### THE ROGERS' LIKENESSES.

Thus John Rogers, the martyr, had red hair, as appears from a painting of him now in Harvard College; and, accordingly, red or light hair and sandy whiskers will be found to prevail in his descendants, in this country, to the present day. So powerful was his constitution, that it stamped its own impress upon the great majority of his descendants. Compare the number of Rogerses who have more or less admixture of the red in the colour of their hair, with the community as a whole, and the force of this hereditary fact will be too apparent to be controverted.

So when some conspicuous ancestor had a prominent, or a Roman, or a pug nose, or a projecting, retreating, or double chin, or full or sunken cheeks or eyes, or high, small, or prominent cheek-bones, or heavy eyebrows, or a high or retreating forehead, or a large or small mouth, thick or thin lips, long or short face or neck, large or small ears, more or less of his descendants will "take after" him in these and other respects.

#### THE WEBSTER PHYSIOGNOMY.

The Webster eyebrows illustrate this subject. Those of Daniel are large, long, thick, coarse, and very heavy. So were those of Noah, his distant relative. Those of Professor Haddock, a cousin of Daniel, and those of a Webster in Philadelphia, a sixteenth cousin of Daniel, bear a strongly-marked resemblance to those of the distinguished senator.

#### THE HOPKINS' FAMILY LIKENESS.

Five hundred years ago, a member of a family named Hopkins, removed from the native town of the family in England, and three hundred years afterwards, one of its descendants emigrated to this country, and, finally, one of this branch removed to Canada, and was elected a member of its provincial parliament. Another Hopkins recently emigrated from England to Canada, and was also chosen a member of the same body. One of these Hopkinses requested the speaker, Col. Fitz-Gibbon, my informant, to introduce him to the old member Hopkins, which was done. On comparing notes, each Hopkins was able to trace his ancestry back to this same family estate in England, and to the same individual, and so strong was their family resemblance, that Col. Fitz-Gibbon expressed himself thus concerning it: "On looking at the two, their resemblance to each other was as striking as if they had been brothers. Though well acquainted with the old member, I even found it somewhat difficult to distinguish them from each other." It thus appears that the Hopkins' form of body and face had stamped its impress on these, and of course on all intermediate descendants, so powerfully, as to have perpetuated itself, in spite of all intermarriages, for FIVE HUNDRED YEARS.

The resemblance of twins to each other would be in point; but to multiply words on a fact so universally cognisable, is unnecessary. Every close observer must have been often struck with the close physiognomical resemblance borne by children to their parents and relatives, and by descendants to their ancestors. The transfer, allowing for the intermingling of the likenesses of different ancestors, is almost as perfect as though father, sons, and grandsons were daguerrotype likenesses, taken at different times, from one common original.

#### FORMS OF BODY HEREDITARY: THE HATCHES.

Whenever any ancestor is lean and lank, more or less of his descendants will be thin and spare; but when any ancestor is plump and full in person, some of his descendants will be round and plump. And when one descendant is tall and another short, or one fleshy and the other raw-boned, some of the descendants will often resemble one and others the other, even in the same family of children. Thus a



family of the name of Hatch, who resided in Coshocton, the author's native town, were nearly all very tall and slim, for the three generations in which he was personally acquainted with them, and this peculiarity doubtless extended still farther backwards, and also downward, and into the other branches of the family.

#### THE FRANKLIN AND FOLGER FAMILY.

Both the likeness and the form of body of Franklin were peculiar. In form, he was large, portly, deep-chested, and round shouldered. His mother was a Folger from Nantucket, and descendants of her brothers now residing in Nantucket, still bear a marked resemblance both in the general structure of their bodies, and in their family likenesses, to Franklin. Of this, the engraving of Walter Folger, compared with that of Franklin, the son of his grandfather's sister, affords a striking example. George Folger, of Nantucket, exhibits the same Folger likeness. William Homes, of Boston, who died 1785, bore "a striking resemblance to his uncle Dr. Franklin." John Tappan of Boston, brother of Arthur and Lewis, of New York, has this same Franklin likeness and structure; and his mother, Sarah Homes, was a granddaughter of Franklin's sister, whose mother was of course a Folger. At New London, Connecticut, in 1837, the author saw a granddaughter of Franklin, whose likeness and configuration of body were closely analogous to those of her philosophical grandfather. The maiden name of Lucretia Mott, so widely known as a female "Quaker preacher," was Folger, and she is from the same Folger stock from whom Franklin inherited his physical and mental peculiarities. Her forehead, like his, and like those of John Tappan, and Walter and George Folger, is high, broad, projecting, expansive, and indented in the middle, and her face, like theirs, has that same square-cornered aspect which all Franklin's front likenesses show him to have possessed.

#### THE WOODBURY STATURE.

Levi Woodbury, ex-Secretary and senator, has a peculiar form both of body and face; large, round-favoured, fleshy, and specially developed at the abdomen. In 1843, a professional applicant for the author's services gave her name as Woodbury. Her likeness and personal appearance bore so close a resemblance to this distinguished statesman—she being large, portly, fleshy, and similarly formed—that I enquired whether she was related to Levi Woodbury, and was answered that she was his cousin; that she resembled her father, Levi's brother—that Levi resembled his, and of course her, GRANDFATHER, and that the Woodburys were generally known by their family resemblance to each other and to their ancestors, two brothers who settled in Beverley, Massachusetts, seven generations back.

#### THE WEBSTER STATURE AND LIKENESS.

In 1840, a customer entered my office whom I supposed to be, and whom I called Webster, supposing him to be Daniel. He was the sixteenth cousin of Daniel already cited. He had the same general structure and configuration peculiar to Daniel; the same carriage, about the same slowness, but power of motion, the same height and weight, the same colour and coarseness of hair, the same form and colour of eyes, the same extraordinary vital and muscular appearance, and the same form and expression of countenance.

Professor Charles B. Haddock, of Dartmouth College, is a nephew of Daniel Webster; and the two bear a close family resemblance to each other. The Websters in Maine and New Hampshire, are generally distinguishable by their possessing the same Webster likeness, and a great size of head.

Noah Webster had two of the physiognomical marks of Daniel—the heavy eyebrows and prominent forehead—and though no relationship has existed between their ancestors for the 250 years since they emigrated to this country, their progenitors in England were probably related.

#### THE DWIGHT LIKENESS AND STATURE.

Screno E. Dwight, son of President Dwight, while riding on horseback among the New Hampshire mountains, overtook an old man, also on horseback, who, after eyeing him closely for a while, finally looked him full in the face, and inquired whether his name was not Dwight, and whether he was not the son of Colonel Dwight, adding, "Sixty years ago I worked for the Colonel, and you resemble him in countenance.

tone of voice, and the way you sit in the saddle, so nearly, as to warrant the question of relationship." Sereno replied, that Colonel Dwight was his GRANDFATHER, and that his son Timothy, the theologian, was his father. Colonel Dwight was a large, well formed, finely proportioned, noble-looking man, and so was the President, as seen by his likeness, and so are their descendants generally, as the author can testify from a personal observation of several of them.

But why multiply facts in proof or illustration of a principle so obvious? Who, that compares ancestors and descendants, does not see it exemplified wherever he makes observation? This is especially apparent wherever either have any strongly marked physical or physiognomical peculiarities; and such extreme cases furnish the best tests of the truth of this law of nature. Children of course derive their ever-varying forms of body and face from some source. From what source can they derive them but parentage!

#### SIZE TRANSMITTED—LEWIS SANBORN, ETC.

Dixon H. Lewis, the weighty ex-speaker of the lower house in the congress, so large that the chair was made expressly to hold his magnitude, and who always fills three seats in the stage, weighs 430 pounds, and has a brother who weighs 400, and also a sister of the extra delicate weight of over THREE HUNDRED.

Mr. Sanborn, of Salisbury, weighs 400, and has very large hands and fingers, and has a sister who weighs 300. Two brothers and three sisters in Southborough, Massachusetts, weigh together 1258, or 250 on an average.

The Patagonians of South America, are said to be gigantic in stature.

Buffum mentions a Martin Salmerson, a Mexican giant, the son of a Mestizo, by an Indian woman, who measured seven feet three and three quarter inches, and was well proportioned.

J. H. Reichart, of Friedburg, near Frankfort, Germany, was eight feet three inches. His father and sisters were both gigantic.

The giant bodyguards of Frederick William I., left a large race in Potsdam, where they were quartered.

Dwarfishness is also transmitted. A nation of very small men has recently been discovered in Africa.

The Esquimaux attain the height of only about four feet eight inches, and the Mogul Tartars only four feet nine inches.

The Polish nobleman, Barwlski, who was well-proportioned, intelligent, and skilled in the languages, measured only twenty-eight Paris inches, his brother thirty-four, and his sister only twenty-one.

C. H. Stoberin, of Auremburg, was only three feet high, and her parents, brothers, and sisters were dwarfs.

Other analogous cases might be cited, but who is so dull of observation as not to have seen many such? And what is quite remarkable, many of the members of some families, generation after generation, are small and slim just about a given age, when in a short time, they become excessively corpulent. Of this the author has seen many examples in parent, children, and grandchildren. This tendency is undoubtedly the result of hereditary influences.

#### A SCOTCH PRACTICE: SMALL WOMEN.

Formerly, when the Scotch were more ambitious than now to have large and tall sons for warriors, the matrimonial demand for large women was so great, that such, though inferior in other respects, were universally preferred, while small women, whatever might have been their virtues, were doomed to live a life of single blessedness. Hence, in part, the fact that most Scotchmen are of rather extra size, and few small. The scales are now reversed by us. Small women are now preferred. A woman who weighs over ninety is too large for the matrimonial market, and the diminutiveness of our children is the consequence. Little mothers must necessarily have little children, and as our women try to render themselves extra small and delicate, we must expect, at this rate, to become a nation of Lilliputians. Sometimes, from causes to be specified hereafter, large parents have small children, but the general fact that small parents usually have small children, all must have observed. The Wigglesworth family of New England, one of whom was professor in Harvard College, are generally small. And where one parent is large and another small, the children who "take after" the large or small parent in countenance or character, generally inherit their size also.

## MUSCULAR STRENGTH HEREDITARY: BIHIN.

Stature being hereditary, and strength depending in part on stature, we might infer that both muscular force and muscular feebleness are transmitted. And facts attest the truth of this inference. Mons. J. A. J. Bihin, the Belgian giant, who was exhibited a few years ago in our museums, measured nearly SEVEN AND A HALF FEET in height, four feet two inches round his chest, twenty-eight inches round the thigh, and twenty round the calf of his leg, and weighed THREE HUNDRED POUNDS. He was symmetrically formed throughout. At birth his length was twenty-five inches, and his weight twenty-six pounds. When twelve years old, he was five feet ten inches and high, and at fourteen, over six feet. He could lift EIGHT HUNDRED POUNDS, and straighten himself under two tons. Both of his parents are athletic, and his father's father was nearly as large and strong as himself; and so was his father's paternal grandfather, as the author learned from the giant himself.

## THE FESSENDEN, DOUGLASS, AND GERRISH FAMILIES.

General Fessenden of Portland, Maine, one of the first lawyers in that state, has been a remarkably strong man; as were also his father and uncle; and this is true of the Fessendens generally.

The Douglasses, to this day, are remarkable for great physical strength, and Scotch history shows that they always have been. In war, one or another Douglass generally performs some almost super-human feat of strength; and in peace, some one of this powerful clan eclipses all others in those games of wrestling, leaping, lifting, throwing heavy weights and the like, so common in that country.

The Gerrishes, of Newbury, Massachusetts, for several generations, have been remarkable for both size and strength. Two brothers and two sisters weighed together 1344 pounds—average 336 each. During the revolutionary war, a blustering English captain sent a challenge to one of them to fight, which was declined. The captain, meeting Gerrish in the street, did all he could to provoke a combat, and finally spat in his face. Gerrish brought his hand to his face as if to wipe it, and struck the captain a back-handed blow, which laid him sprawling on the ground.

At the capture of Louisburg, the British soldiers challenged the Americans to a trial of strength. It was accepted, and Colonel Samuel Gerrish was selected, who, in every contest with the English soldiers, carried his point with the greatest ease. To their great amazement, he even out-pulled five of their companions with one hand. When at home, many persons came from a great distance to wrestle with him. On one occasion a noted wrestler hearing of his strength and skill, came from a distance to have a wrestle with him. Calling when he was absent, his sister dressed herself in his clothes, and, personating her brother, floored the challenger repeatedly, who, on discovering that his antagonist was a female, slunk away.

An English agent of claimants of lands situated in B—, Maine, where some of this giant race had settled, attended the town meeting, and, seeing such tremendous men, asked if such men as these occupied the land in dispute. He was told that these were only boys compared with those who lived farther back. He did not prosecute his claims.

## JONATHAN FOWLER AND HIS DESCENDANTS.

Jonathan Fowler,\* of Coventry, Connecticut, was the son of an immensely large woman, of about 300 pounds weight. She was endowed with extraordinary strength, which her son Jonathan inherited, as the following story, copied from the *Vermont Republican* of September 20th, 1817, and originally taken from the *Hartford Times*, fully attests:—

"The history of General Putman and the wolf, is too well known to need any elucidation. The writer of his life, David Humphreys, has fully delineated the heroism and courage of that veteran, and the many bold and daring enterprises which characterised it, in war and peace. About the same time, a bold and daring attempt to destroy another savage monster of the forest was undertaken and accomplished by Mr. Jonathan Fowler, of Coventry. As this uncommon act of bravery has never appeared in print, I will give a short narrative of the affair, so that the youthful part of the community may see what feats of valour their forefathers were capable of per-

\* Barber's "Statistics of Connecticut," mentions John Fowler as one of the first settlers of Guilford, Connecticut, in 1645, the native place of the author's father. John's brother, William, settled at Milford, Connecticut

forming. Mr. Fowler, being on a visit to East Windsor, between seventy and eighty years ago, and walking out one day with several of his friends, they were suddenly surprised by a huge bear, who rushed upon them from his place of concealment. His associates, like a band of choice modern Pettipaug spirits, fled without trying to make the least opposition. The bear came up to Mr. Fowler, who, although a man of great bodily vigour, being rather inclined to corpulency, did not happen to be quite so nimble-footed as his brave friends were. Finding that he should soon be overtaken, and determining not to be attacked in the rear, he very resolutely faced about just as the bear rose on his hind legs to give him the Indian hug.

"He, at this instant, with that degree of courage which was ever a prevailing characteristic of our forefathers, seized the bear by the throat with one hand, and held him off. In the scuffle which ensued, the bear had partly got him down, while he begged his friends to get a club and kill the bear, but, like fixed statues, they remained insensible to his entreaties. At this time the old proverb, "Fortune favours the brave" was completely verified, for, happening to cast his eyes around, he espied a pine knot on the ground near him, which with one hand he reached and took, while the other was fast hold of the bear's throat, and with it killed the bear. His brave companions, after being fully satisfied that the dead bear would not hurt them, ventured to come to the spot.

"His Majesty, the king of England, was so highly pleased with one of his subjects performing so great a feat of valour, that he ordered him to be drawn in the act of killing the bear, in one of the rooms of his palace, where he remains to this day. He was nearly seven feet high, and weighed about 300 pounds. Though very large, he was not fat, most of his flesh being MUSCLE."

The bear story is backed by such living and incontestible evidences, as fully to prove its authenticity. The identical pine knot mentioned in the story, and also the skin of the bear killed—and an immensely large skin it is—together with the original painting of Fowler, drawn in the act of killing the bear, and headed, "JONATHAN FOWLER, THE GIANT OF AMERICA," have all been recently seen in the British Museum by a friend of the Bradford (Pennsylvania) branch of this bear-killing ancestor, and can still be seen by any who will make the requisite search for them. Unless a most extraordinary feat of strength and valour had been performed, it would probably neither have reached the ears of the king of England, nor, if it had, been deemed worthy of a historical painting. This identical story, without any material variation, is also in the memories of every old inhabitant of the Connecticut Valley, and of the Northern and Middle States, and told of Jonathan Fowler, of Coventry, Connecticut. One of the particulars told by the old people, but not mentioned in the extract, is, that the father-in-law of Jonathan had found and killed the bear's cubs, and thus enraged her, so that she pursued him with apparent vengeance, when he called to Jonathan to "come and take off this filthy beast."

So renowned was this bear-killer as a wrestler, that those who thought themselves too strong to be thrown by any one, often came hundreds of miles to wrestle with him; but all got FLOORED. He never found the man who could beat him. As he was about to join issue with one of these wrestling applicants, he invited him down a cellar to drink cider with him; when, knocking out the bung of a full barrel, he took hold of its chimes, lifted it to his mouth, drank, and set it down, AT ARM'S LENGTH, and told the other to help himself. The latter gave up, beat, without the wrestle.

In the old French war, some American soldiers had ignorantly violated some martial law, for which they were sentenced to run the gauntlet. This greatly incensed the Americans, the "giant" included, who, with another man of strong arm and fearless spirit, rushed into the crowd assembled to witness their chastisement, and each catching a prisoner under one arm, and parting the dense concourse with the other, rescued them from unmerited punishment. The strength put forth in dashing aside the crowd, is described as indeed Herculean.

An Irish bully, who thought he could whip all before him, on hearing of Fowler's far-famed strength, travelled from Boston to Connecticut—then quite a journey—to challenge the giant to a fight. His rap at the door was answered by Fowler's sister—a very large and strong woman—who informed him that her brother wrestled, lifted, &c., but never fought. Disappointed, but still determined to provoke the giant to fight, he met him on the highway, and impudently challenged him to do so, which Fowler declined as contrary to his principles, meanwhile proffering a wrestle. The bully answered that he had come all this distance to have a fight, and a fight he would have, and upbraided him as a "contemptible coward," in order to provoke him to fight. Fowler still declining, the bully threatened that he would MAKE him fight.

at least in self-defence, and at the same time wrung his nose. Jonathan, always remarkably cool, still remained self-possessed, and bore all patiently, while the Irishman, becoming perfectly enraged, made at him, determined to knock him down. Fowler, being very tall and long-armed, caught him by the shoulder as he came up; and holding him, in spite of his struggles, in one hand, as in a vice, far enough off to avoid his blows, with the other slapped him in the face till he cried "enough," when he let the conquered bully go, saying to him, "Tell your Boston friends not that I flogged you, for I will not fight, but that I SLAPPED you."

A strong man, who was loading stones into a cart, had been some time vainly endeavouring to load one too heavy for his strength, when Fowler, coming along, caught it up and tossed it clear over the cart, as if it had been a mere pebble, and then loaded it.

An immense shark had been left in a pool near the shore, at Guilford, Connecticut, by the retiring tide, still alive, though weakened by scarcity of water. Fowler captured, shouldered, and brought it, through mud and water, to shore. It weighed FIVE HUNDRED POUNDS—quite a load, especially for so slippery a commodity and so bad a road.

Other stories are told of his wrestling with an Indian, striking a very turbulent slave at the master's request, lifting one corner of a small house which several men tried in vain to do, and many other like feats of strength, all showing that he was one of the strongest men on record.

The bear story is a freemason's sign by which all his descendants identify each other. And what confirms our hereditary doctrine is, that those descendants generally have been remarkable, throughout the States and Canada, as the strongest men of their times and places. Thus, Eliphalet Fowler, of Bradford, Canada, who died some thirty years ago was reputed, in his prime, the strongest and most able-bodied man of his time. His nephew, Levi Fowler, formerly of Pompey, New York, had the name of being able to roll more logs, and clear more land in a day, as well as handle larger logs, than any other man in town. He was also a great wrestler while young. The father of William Fowler, of Bradford, Vermont, a great grandson of Jonathan, broke a large iron bar while screwing down a press—the bar having been made and used expressly for turning the screw. And this William Fowler and also his son William, are very stout men. The Fowlers in Bradford, Pennsylvania, are also equally remarkable for their strength and size. So are those of Litchfield, Massachusetts, and in the Connecticut Valley generally. And whether the author's endurance of labour confirms this doctrine of transmitted strength as applicable to the power of undergoing mental exertion, his diversified labours must answer.

#### THE ROYAL STUART FAMILY.

The following, headed, "The last of the Stuarts," taken from a Scotch paper, shows that this royal family were originally endowed with extraordinary muscular strength—to which they were perhaps indebted for that ascendancy which finally placed the crown on their heads. Its subject was the brother of "The Pretender," and was 115 years old at the time the article was written. It is as follows: "Hundreds of persons can bear testimony to his amazing strength, from which circumstance he got the bye-name of "Jemmy Strength." Among other feats he could carry a twenty-four pound cannon, and has been known to lift a cartload of hay, weighing a ton and a half, upon his back. Many a time he has taken up a jackass, and walked through the toll bar, carrying it on his shoulders.

The two Stuarts, now on exhibition at the American Museum, though only seven and nine years old, weigh together over SEVEN HUNDRED POUNDS, besides being remarkably strong, and as well formed for strength as probably any other human beings. Parkins, ex-sheriff of London, so long imprisoned in this country, but now dead, was an illegitimate member of this family, and remarkably strong and sprightly. So was also another illegal descendant, who was a college class-mate of the author.

Ranges of facts like the foregoing, which attest the descent of great muscular vigour from ancestors to descendants for many successive generations, and throughout all the branches of these strong families, might be cited to any required extent, yet are doubtless known to every reader, so that we need not further enlarge. Our object in thus dwelling upon this and other kindred points in the early progress of the work will be seen when we come to make the application of these principles. We wish to render our premises absolutely IMPREGNABLE, that our inferences may be both irresistible and tangible.

## PHYSICAL DEBILITY HEREDITARY.

Stature and strength being thus hereditary, the inference is obvious that debility is equally so. And this is rendered evident by facts quite as numerous and striking as those just adduced. Whoever saw a strong child from parents both of whom were naturally weakly. On the contrary, look where we may, we see weak-muscled parents to have weak-muscled children, though many parents are too effeminate to have any children. Working men, whose muscles are strengthened by labour, generally have stronger children than the sedentary, whose muscles have become enfeebled by inaction. But as this point is closely allied to the transmission of health and disease—subjects to be fully discussed hereafter—we dismiss it till it can be presented with greater effect.

## MARKS AND EXCRESCENCES HEREDITARY—PORCUPINE MEN.

That same law which transmits from generation to generation these various physical properties, often hands down physical excrescences and deformities.

The PORCUPINE MEN furnish a strong instance of this law. Mention is made of them in several scientific works. Their skins were covered with wartlike, bristly bunches, which looked and rustled like the quills of hedgehogs cut off within an inch of the skin. They were shed annually. Some of the children were naturally formed, but one of them had six children, all of whom had these excrescences. It was traced in three generations in the Lambert line.

## SIX FINGERS AND TOES HEREDITARY.

The Old Testament mentions several giants who had six fingers on each hand and six toes on each foot.

PLINY describes a like peculiarity as existing in his day.

REAU MUR traced a like malformation in three generations.

CARLYLE also observed it in four generations. The first was a female, ten of whose eleven children had the supernumeraries, while another had but one extra finger and one surplus toe. This one had four children, three of whom had one or two limbs natural, the remainder of the limbs all deformed. The fourth had the supernumerary fingers and toes, and of his eight children four had them and four had not. Two were twins—one deformed, the other natural.

The HOBART family, who reside in Ontario county, New York, have five fingers and a thumb on each hand, and six toes on each foot, though some escape. They trace this peculiarity back in the Hobart line to England. In some these extra appendages stick straight out, while in others they lie snugly ensconced by the side of the little fingers and toes.

Mr. FRENCH and Sheriff BUTTERFIELD, of Lowell, Massachusetts, and Mr. BLANCHARD of Groton, trace these extra fingers and toes in several generations. Though in many they have been amputated at birth, yet they appear in their progeny, as much as in those not amputated.

ZERA COLBORN, the celebrated mathematician, had this peculiarity, as had also his mother—from whom, by the way, he evidently derived his wonderful calculating powers—and some of his children.

B. B. NEWTON, his father, and two out of three of his children furnish still other examples of the transmission of similar extra appendages.

Many of the Newmans of Ipswich, have the surplus fingers and toes. Two of their boys, who attended J. Coffin's school, had them; their parents had not, but their ancestors had.

## OTHER DEFORMITIES HEREDITARY.

A professional applicant in Manchester, New Haven, had but one finger. His hand tapered off in one continuous enclosure, in which, however, the rudiments of the fingers were slightly perceptible. A parent, an uncle, and two children of a sister, had a similar malformation, though the sister had not.

He also mentions a family in whom their third finger was generally the longest.

JONATHAN FOWLER, already cited for his great strength, is said to have had immensely large hands and feet; and several of his descendants are characterised by a like peculiarity. Even some, who inherit a rather diminutive stature from other ancestors, yet retain these marks of their having descended from the bear-killing giant.

Mr. —, of Newburyport, Massachusetts, was born with the second joint of his little finger perfectly stiff, which his two only children inherit.

Mr. ANDERSON, a Norwegian, who resided in Lowell, in 1843, had a malformation of his second toe on each foot, and all his brothers and sisters had one just like it.

The Rev. Mr. V. Z., on his trial for seduction at Rochester, in 1841, was shown to have a crooked finger, as had also the illegitimate child of whom he was the alleged father.

THICK LIPS were introduced into the Royal family of Austria three centuries ago, and are still plainly perceptible.

"WILLIAM B. GOUSE," said a man, in conversing on hereditary facts, "so nearly resembles his cousins whom I knew, that I mistook him for them, so nearly alike was their manner of laughing."

Mr. A—, of Philadelphia, has a deformed heel which renders him lame, and he has a son similarly afflicted.

TWO GAYLEYS, brothers, have a singularity in their quacking or squeaking of the voice, caused, probably, by the deafness of their father and grandfather.

The HOWE family, whose capture and Canadian captivity by the Indians at Fort Hinsdale, in the old French war, the American Preceptor so eloquently describes, have very large, wide, long, and projecting front teeth. I know nearly all the descendants, especially of the Squire Howe, who, while resting, was knocked off the Indian sacks with the handle of their tomahawks, and who carried the deep indentations thus made in his head to his grave. And all his descendants have this mark. I have traced it through five generations.

A deceased mother who, as it was expressed, laughed out of her eyes, had three sisters who had a similar expression of the eye when they laughed, and three children, and several grandchildren who took after her in this respect. She inherited it from her mother. She and two of her sisters, and a son, have also spasmodic twitching of the eye, owing, doubtless, to the same cause.

Mr. COFFIN mentions a mother who had a peculiar squint, which she transmitted to her five daughters.

A Mr. TAYLOR, whose body was well formed and of a good size, but whose legs were very short, at some religious anniversary in Vermont, invited the Rev. Mr. Culver, of Boston, to his house, where were a son and two daughters, deformed like their father, the daughters well formed in body and fine looking when seated, but only about four feet in height, and having a very singular appearance when on foot.

#### WENS HEREDITARY.

Stepping into the barber's shop, No. 2, Beckman Street, New York, and hearing some conversation about a wen on the neck of one of the customers, I inquired whether either of his parents had similar wens. He answered, "No, but my uncle had." I again inquired whether he was considered to resemble that uncle. He replied, "Yes, very much; I am often taken for him."

A Mr. PAYNTER of Newtown, Long Island, had several excrescences or wens on his head, formed in the scalp, and moveable. His daughter has similar ones; so had a parent; and one was just beginning to form on a granddaughter. Her cousin has another. None appeared in childhood. All were developed at about the same age. Many similar extra formations might be cited, as having descended four, five, and more generations, and probably many more; but these must suffice as illustrations.

#### FLAXEN LOCKS HEREDITARY.

Mrs. HORTON, who, in 1842, resided about a mile east of Pawtucket, Massachusetts, has a flaxen lock of hair growing on Benevolence, nearly white, while the rest of her hair is brown or dark. Two of her daughters, both closely resembling her, had a kindred lock. So had her father, and his mother, and also her father, and thus on for SEVEN GENERATIONS; and probably as much farther. Of her twelve uncles and aunts, eight had it, and four not, and those who had it lived longer than the others; and their old great-grandfather, to whom it was traced, lived to be 104 years old.

A similar mark occurs in a lad who lives in Newark, New Jersey—and was exhibited there by the author at his lecture on Hereditary Descent, in 1845, in whose ancestors it was traceable for five generations; though it did not appear in his mother, but did in her mother.

## EARLY BALDNESS AND GREY HAIRS HEREDITARY.

Mr. HARTMAN, of Great Falls, New Haven, became bald at 21. His father and grandfather were bald young, and his uncle, sister, and several cousins are either bald or have very thin hair; and those who lose their hair, all look like his bald grandfather.

The wife of the Rev. Mr. —, of —, became grey young. So did her father. Many like cases exist everywhere.

## PECULIARITIES OFTEN PASS BY ONE OR MORE GENERATIONS.

The transmission of qualities in an unbroken line is so common, as to be universally conceded and expected. But, singular as it at first appears, it is nevertheless a hereditary law that nearly or quite all the powers or peculiarities transmitted, often run UNDER GROUND one, two, and even more generations, and then reappear in subsequent ones, in all their distinctness.

Thus, two of the children of NATHANIEL P. RANDALL, of Woodstock, Vermont, have little holes or issues just in front of their ears, which discharge during colds. Mr. Randall has none; but, at the corresponding location, a little indentation about the size of a pin's head. A sister has it, as also her children. His father, through whom this mark descends, has only a slight indentation, like that of his son, but his maternal GRANDMOTHER has it. It therefore passes over one generation in his father and sisters, and two in himself and father, but reappears in the third—his children.

That tall HATCH family furnish another illustration of this law. One of this family, whose height is only ordinary, and person rather stout than slim, has a girl who resembles her tall grandfather.

Mrs. HUNT, of Boston, has bright red hair. Not one of her numerous family of children has it, and only one of her grandchildren, of whom she has a goodly number. Of course this one is her special favourite. She says, "Every hair on its little head is worth a guinea."

Mr. W—— had red hair, yet every one of his children had dark hair, and all his grandchildren, except two; but his GREAT grandchildren all over the country are coming out with bright red hair. Many who know these descendants and their parents and grandparents, but not their red-haired progenitor, wonder from what source they derive this peculiarity.

## IMPORTANT INFERENCE.

One important circumstance connected with this law deserves the special attention of all whom it may concern; namely, that as Mrs. Horton resembled her father in her phrenology and physiognomy, from whom also she inherited her flaxen lock, and as her daughters resemble her—and as those relations who had the flaxen lock lived longer than the others, that is, inherited LONGEVITY along with this mark, so, in general, those who resemble a consumptive grandmother, for example, will be more liable to consumption than their brothers and sisters who take after some other branch; and thus of all other peculiarities; just as the man who had the wen resembled his uncle, who also had one. One other fact by way of riveting this important principle.

At the Temperance House, Lowell, in 1843, the chamber-maid had a cancer on her face. Her father had none, but his mother died of one, and she resembled this grandmother, while he did not. Her uncle, however, took after this grandmother—his mother—and had a similar cancer; as did two of his children, who also resembled their father, and of course their grandmother and cousin. Those, therefore, whose parents may have been afflicted, or died with any disease, but who do not resemble this parent, are much more likely to escape the malady than those who do; while those should be on their guard who do "take after" parents, grandparents, or relatives thus afflicted. The same law applies equally to longevity, strength, talents, morals—all those qualities which are transmitted—and constitutes a guide of great value to those whom it may concern.

## LENGTH OF LIFE HEREDITARY: JARVILLE, PARR, McDONALD.

Dr. Acott's "Teacher of Health," for 1843, page 315, in an article on the "Influence of Temperance on Longevity," states that "a woman was living quite recently, at Glasgow, Scotland, aged 130 years, who had not felt pain for a century.



Her father died aged 120, and her grandfather 129. A woman died in the West of England, a few years ago, at the age of 110, having 450 descendants. Jarville, in Scotland, a water drinker, lived 108 years, and his son still longer, and his grandchildren to a great age."

THOMAS PARR lived to be 152 years old, a son 109, and a grandson 143, and Robert Parr, a great grandson, died September 21, 1757, aged 124.

The "Library of Health" for 1840, contains the following: "We were personally acquainted with the late DONALD McDONALD, of quarrelsome memory, who was sent to the house of correction for a street brawl, when about 105 years old. When 106, he enjoyed excellent health. \* \* \* His father lived to be 127, and no one knows when he would have died, had he not been accidentally killed.

"A former neighbour of ours died at the age of 80, though an immoderate opium-eater for 40 years. His father lived to be 97, and had 19 children, 105 grandchildren, 155 great grandchildren, and four of the fifth generation. Many of his children reached the ages of 80 and 90."

#### THE ALDEN FAMILY.

"The Genealogy of the Fourteen Families of the Early Settlers of New England"—a work full of hereditary facts—contains the following genealogy of the Hon. John Alden, the stripling who first leaped upon Plymouth rock, and progenitor of the Aldens in the United States. He was the one sent by Captain Miles Standish to get the consent of Priscilla Mullins and her father to a marriage with Standish. After having made his request the fair damsel replied, "Prythee John, why did you not ask for yourself?" He did, and they were married; for which unpardonable offence the Captain never forgave him. This Alden at his death, had 19 children, 62 grandchildren, 134 great grandchildren, and seven of the fifth generation. He lived to a great age—about 90. One of his descendants, Timothy, in Yarmouth, Massachusetts, was a pastor fifty-nine years, and died at 92.

JOHN ALDEN, the great grandson of the ancestor, died at Middleborough, aged 103. He retained his bodily and mental powers so remarkably, that, after he was 100 years old, he often conversed with propriety on religion, and could repeat whole chapters from the Bible. He was the oldest man in the "Old Colony," and a church member seventy-eight years. His grandmother was daughter of Peregrine White, the first white male child born in New England. His mother was the daughter of Captain Ebenezer White, and therefore granddaughter of this Peregrine White.

Of the ancestor's descendants of the fourth generation, Dr. Silas Alden attained the age of 90; Nathan, 80; Daniel, 80; Daniel's father, Joseph A., a grandson of the ancestor, 80; Eleazer, 79; Samuel, 80; Seth 75; his daughter, 81; Mary, 80; Zephaniah, grandson of Joseph, 80; Barnabas, 60; Harriet, 70; Jonathan, a great-great-grandson of the ancestor, 84, and his wife, 91; and her grandfather, 80; Zephania Alden, another of the fourth generation, and his brother, each 80; Samuel, 81; Hannah, 70; another 83, another 90, two others 80 each, another, Deacon Ezra, 84. Of the third generation, John, already mentioned, was 103; Noah, a reverend, 72; and Abigail, 88. Elizabeth, daughter of the ancestor, died at 93, at which time her granddaughter was a GRANDMOTHER, five generations of her descendants being alive at once, and she the sixth. Other descendants reached 73, 82, 67, 79, 81, 79, 70, 91, 91, 70, 62, 92, 70, and 74 years, nearly all the ages there recorded, which are comparatively few.

#### THE HOBART, BASS, COPELAND, AND FRENCH FAMILIES.

The same work gives the following ages of the descendants of the ancestor HOBART, from whom Bishop Hobart was descended: Edmund Hobart, son of the ancestor, 82; Peter, 75; Caleb, grandson, 89; wife, 86; third son, Caleb, 70; Rev. Joshua, another grandson, 89, who was a preacher 49 years; Rev. Jeremiah, also a grandson, 87, and his brother, 62; and Rev. Nehemiah, grandson of Peter, 64, a preacher 40 years.

The BASS family attained the following ages: The ancestor, a Plymouth pilgrim, lived 94 years, and had 162 descendants when he died. His wife died at 93, and some of their descendants as follows: 84, 89, 97, 82, 98, 74, and 87.

LAWRENCE COPELAND, a very aged man, born in the reign of Queen Elizabeth, and deceased 1699, had children who attained the respective ages of 90, 92, 77, 78, 86, and 83.

JOHN FRENCH, another ancestor, lived to be 80, and his sons, 89, 73, 78, and 83—the last two twins.

## THE LEWIS, MARSH, COBB, TAPPAN, AND BREVOORT FAMILIES.

"HANNAH LEWIS," says Rush "On the Mind," "though deranged from middle life, lived to be 87. A predisposition to longevity, derived from her ancestors, predominated over the tendency of her long-protracted disease to destroy her life. She lost one sister in the eighty-second year of her age, and at the time of her death had another living, who was 94."

Of the Mash or Marsh family, "The Memoirs of Mrs. Tappan" state that Onesiphorus and his son John, and grandson David, died each aged 80 years. David's wife—a Moody—lived to be 91, and had lost none of her twelve children at her death, nor did any die till twelve years afterwards. "This family has been remarkable for the longevity of its members."

Seven brothers, COBBS, lived to the following ages: Benjamin nearly 87; Mason, above 84; John, 82; David, 79; Daniel, 71; Solomon, alive at 84, and Jonathan at 82. Aggregate ages, 570; average nearly 82. Two of them saw their great-grandchildren. Their father lived nearly 98 years, and their mother 38.—*Chronotype*.

HENRY BREVOORT recently died in the Bowery, New York, aged 104, and most of his ancestors and relations have lived to be very old.

Seven TAPPANS, of New York State, all recently alive, have together lived 597 years—over 85 on an average, and they are likely to live considerably longer.

The Toppans, or Tappans, generally live to a great age.

The grandmother of Lewis and Arthur Tappan, was a Marsh, of Haverhill, Massachusetts; she died aged 84. Her father, Deacon David Marsh, died aged 89; he had 12 children, whose average ages exceeded 84, and in the aggregate were over 1000.

## THE FRANKLIN, FOLGER, WOODBURY, ADAMS, AND FOWLER FAMILIES.

Franklin's father lived to be 89, and his mother 83. Neither of them were ever sick. Franklin himself, and his son, lived, the one to be 84, and the other 82.

As already remarked, the Tappan and Franklin families are related to the Folgers, who are also long-lived; Walter is now 82. The Woodbury families live to a great age.

John Q. Adams, now remarkably laborious, yet a vigorous and eloquent old man, at over 80, is from a very long-lived stock. His great-grandfather died at 93, and his father at 91. His father was so well at that age that he expected the day he died to have celebrated "Independence" in Boston.

The author's great-great-grandfather, Fowler, died aged 93, and his grandfather over 80, of poison. He was able to work quite hard at 80. Eliphalet Fowler, already mentioned, lived to be 84, and was able to do light work the year he died. The author's grandmother, Field, was 84, and would doubtless have lived to a greater age, but that she took opium in great excess. Nearly all her brothers became very old. One, Solomon Field, of Ashfield, Massachusetts, died at about 90.

Mrs. Jane Simmons died in London, 1792, aged 119 years. She left two daughters, each 100 years old.

A woman in Berlin, in Prussia, recently married after she was 100 years old, at which time she had a son over 80.

JOHN VAN FROST, of Schenectady, in his 104th year, had children aged as follows: James, 84; Fersham, 79; Aaron, 71; John, 64; and a daughter, Mrs. Shirtleff, 77.

The following, from Joshua Coffin, bears on this point:—

LETTER FROM JOSHUA COFFIN, ON LONGEVITY.

Newbury, 30th November, 1846.

DEAR SIR,

Samuel Chase, of Newbury, married Hannah Emery, 8th December, 1713. His children were

Francis, born 8th August, 1715, and died 25th September, 1806, aged 91.

Amos, born 9th January, 1718, and died in 1817, aged 99 years ten and a half months.

I can obtain and send in a few days, the ages of all the preceding persons who, I am told, all but one or two, lived to an advanced age.

Let us now take the posterity of Deacon Francis Chase, the first in the above list. He married Sarah Pike, and lived in Newtown, New Haven, and had fourteen children, viz:—

1. Hannah, married Joseph Welsh, of Plaistow, had 13 children, and died aged 80.
2. Samuel, married Molly Stuart, of Litchfield, had 11 children, and died aged 76.
3. Amos, married Hannah Carlton, of Unity, and died aged 73, having 13 children.
4. Francis, married A. Hubbard, had 7 children, and died aged 80.
5. Joseph, married Elizabeth Darrah, of Litchfield, had 14 children, and died aged 82.
6. Abner, married A. Moody, had 5 children, and died at 91.
7. Simeon, married three wives, had 8 children and died at 81.
8. Sarah, married Reuben Curner, had 8 children, and died at 98.
8. Elizabeth, married Richard Whitter, had 5 children, and died at 73.
10. Daniel, married Sally Eaton, had 7 children. and died of a cancer, at the age of 55.
11. Molly, married James Carlton, had 5 children, and died at 70.
12. Moses, married Mary Noyes, had 5 children, and died at 50.

13 and 14 died in infancy.

Let us now take the second son of Francis—Samuel, who married Molly Stuart.

Their children were

1. Samuel, of Litchfield, who had 11 children.
2. Ebenezer, who had 8 children, and died aged 70.
3. Daniel, who has had 8 children, and is now living, aged 80.
4. Robert, had 13 children, and died aged 71.
5. Francis, had 4 children, is now living, aged 71.
6. Polly, has had 8 children, is now living, aged 68.
7. Simeon, had four children.
8. Nancy, had 8 children, and is now living, aged 62.

James Davis, senior, died 29th January, 1679, aged 96, an ancestor of Colonel James Davis, of New Haven, who died in 1749, aged 88. He had 9 children, who died at the following ages, viz.;

James, 93; Thomas, 88; Samuel, 99; Daniel, 65; Sarah, 91; Hannah, 70; Elizabeth, 79; Ephraim, 87; Phœbe was living in 1824, aged 85.

Enoch Coffin, Esq., of Edgartown, died in 1761, aged 83. He had 10 children, ages at death as follows:—Love, 88; Hepzibah, 90; Elizabeth, 73; Abigail, 88; John, 82; Enoch, 90; Deborah, 80; Benjamin, 75; Samuel, 70; and Beulah, living in 1810, aged 80. Enoch Coffin's father, John, died in 1711, aged 64. John's father, Tristram Coffin, senior, died in 1681, aged 72. Tristram Coffin, junior, son of Tristram Coffin, senior, died in 1704, aged 72. Peter Coffin, of Dover, New Haven, died in 1715, in his 85th year; he was son of C. Tristram, senior. James, son of Tristram Coffin, died in 1702, wanting fourteen days of 80 years. Stephen, another son of Tristram Coffin, died in 1735, aged 83. Mary Starbuck, daughter of Tristram Coffin, died in 1717, aged 72. Hon. Nathaniel Coffin, son of Tristram Coffin, junior, died in 1748, aged 79. Colonel Joseph Coffin, son of Nathaniel Coffin, died in 1773, aged 71.

Deacon David Marsh, of Haverhill, died in his 80th year. His wife died in her 92nd year. They had twelve children. The eldest died in her 84th year; the second, in her 88th year; the third in her 80th year; the second son in his 81st; the fifth son in his 69th. The seven other children were living in 1810, as follows: The eldest son was in his 87th year; the third in his 82nd; the fourth in his 80th; the sixth in his 76th; the seventh in his 73rd; the fourth daughter in her 71st; the fifth in her 69th year. All are now dead. The precise ages I will obtain in a few days.

William Peters died in Medfield, Massachusetts, in 1786 or 7, aged 85.

Hannah, his wife, died in 1786, aged 93.

They had ten children, viz.,—Joseph, died in 1800, aged 71; Benjamin, in 1803, aged 72; Mary, in 1813, aged 81; Adam, in 1813, aged 79; Eve, in 1823, aged 87; Tahpunis, in 1817, aged 77; Andrew, in 1822, aged 80; Nathan, in 1824, aged 77; Tunis, in 1820, aged 73.

Jethro Peters was living in 1824, in his 81st year. The day he was eighty years old he walked thirteen miles.

Dr. H. Martin, died at Marblehead, leaving seven children by his first wife, who were all living in 1824, of the following ages, viz.—88, 87, 76, 73, 71, 61. By his second wife, he left two children, ages 53 and 51.

Mary Briggs died in Wellington, Massachusetts, in 1813, aged 102, leaving nine children, 79, 77, 73, 72, 70, 68, 63, 60, 57.

Mr. Temple, of the county of Worcester, Massachusetts, died in 1765, aged 86. His eight children were living in 1788, at the following ages:—89, 85, 83, 81, 79, 77, 75, 73

Oliver Farmer, of Billerica, died 1761, aged 76. His wife died 1773, in her 77th year. They had nine children; their ages were as follows:—

Abigail died 13th January, 1791, aged 70 years and 352 days.  
 Mary, died 25th September, 1803, aged 72 years 19 days.  
 Sarah, died 8th December, 1819, aged 95 years, 346 days.  
 Betty, died 17th September, 1805, aged 70 years, 87 days. } twin  
 Rebecca, died 30th August, 1809, aged 83 years, 79 days. }  
 Oliver, died 24th February, 1814, aged 85 years, 196 days.  
 Isabella, died 26th December, 1793, aged 62 years, 228 days.  
 Edward, died 4th August, 1804, aged 70 years, 149 days.  
 John, died 9th January, 1806, aged 69 years, 21 days.

In the "Salem Gazette" of 1812, is the following account of a family of eight children, born in Chelmsford, who were all living in January, 1812, at the following ages:—

Ephraim Warren, born 16th December, 1731, in his 81st year.  
 John Warren, born 14th September, 1733, in his 79th year.  
 Esther Warren, born 27th April, 1735, in her 77th year.  
 Isaac Warren, born 30th January, 1737, in his 75th year.  
 Lydia Warren, born 1st January, 1739, in her 73rd year.  
 Elizabeth Warren, born 25th May, 1741, in her 71st year.  
 Thomas Warren, born 5th April, 1748, in his 69th year.

Josiah Warren, born 27th April 1745, was in his 80th year, and living in 1824. The above have all died since 1812, the most of them at the age of 80 or upwards. Their parents were above 80.

In Dr. Dwight's "Travels," vol. 2, I find the following:—

James Leonard, the progenitor of the family, had three brothers. Including these, himself and his descendants, amounting to 44 males, the ages on this side of the family are as follows:—four aged, but age not certainly known, three almost 70; nine above 70; nine averaging 74; three near 80; eleven above 80; five age unknown. Of his female descendants, amounting to 25, two were aged, five were almost 70; three were 74; four were above 75; three above 80; one above 90; one almost 100; six age unknown. All these, except the progenitor, were his immediate descendants in direct lines.

Of the males, all except five lived to be above 60. All except twelve, or 32 out of the 44, lived to be above 70; 23 above 74; and 11 above 80.

Of the 25 females, all except eight lived to be near 70—probably all but six; twelve lived to be 74; nine exceeded 75; five were above 80; one above 90; and one almost 100. These Leonards lived in Raynham. The first forge erected in America was built in Raynham, by James and Henry Leonard.

In the same volume of Dwight's "Travels," I find the following:—A married pair of the name of Clark had eleven children. One died, if I mistake not, in early life; of the remaining ten, four lived to be above 90; three above 80, and three above 70. Six of these were sons, and lived, each with the wife of his youth, more than 50 years. The youngest son died in the 98th year of his age. At the time of his death, there had sprung from the original pair 1145 persons, of whom 960 were still living. This Clark family lived in Northampton. In addition to what I said of the longevity of the Chases, you may add John Chase, who died in 1740, aged 85, and David, son of John, who died in 1802, aged 92 years and two months. Simeon Chase died in Newbury, in 1829, aged 84 and a half years. I could mention many others, both in the Chase and Coffin families, who lived to an advanced age. I shall probably obtain in a few days, a more full account of Deacon Samuel Chase's family—that is, his brothers and sisters, and his children.

Thomas Webster, the great-grandfather of Daniel Webster, was 83 years old when he died. Thomas Webster came to Hampton, in or about the year 1656, and died in February, 1715, aged 83. His son, Ebenezer, lived in Kingston, and he had a son Ebenezer, who was born in Kingston, and removed to Salisbury, New Hampshire. That was Colonel Ebenezer Webster, the father of Daniel and Ebenezer Webster, both giants in intellect. Thomas Webster was 36 years old, when his son Ebenezer was born, which was on 1st August, 1667. This Ebenezer was Daniel's grandfather.

#### THE ESTEN FAMILY, OF RHODE ISLAND.

Joseph Esten, the first in the list, and now in his 95th year, enjoys comfortable health. The writer of this saw him two years ago on foot, going to visit his sister, a distance of three miles. He said he mowed that summer, though it plagued him to see the stones.

Joseph Esten, born December 2, O.S., or December 13th, 1752, now of Burrilville, in his 95th year.

Johanna Inman, born January 11th, 1754, now of Burrilville, in her 93rd year.

Martha Inman, born June 22nd, 1756, now of Michigan, in her 91st year.

Jemima Button, born March 15th, 1758, now of Smithfield, in her 88th year.

John Esten, born October 2nd, 1761, now of Burrilville, in his 85th year.

Henry Esten, born May 1st, 1764, now of the State of New York, in his 83rd year.

Mary Brown, born April 15th, 1771, now of Scituate, in her 76th year.

Salome Buxton, born June 5th, 1774, now of Smithfield, in her 73rd year.

Amy Inman, born November 12th, 1776, now of the State of New York, in her 70th year.

Averaging about 84 persons.

Their father died aged 78; their mother died aged 86. Their father's mother died aged 97; their mother's father died aged 97.

Slaterville, October 19th, 1846.

*Providence Journal.*

Nor is there any end to facts of this class. Every observer must have seen similar instances of hereditary longevity, and see them reported in papers and books, both domestic and foreign. Who can doubt the truth of this law of transmission?

#### THE LONGEVITY OF ONE'S ANCESTORS CAN BE PREDICATED.

Not less remarkable than this transmission of longevity, is the fact, that the age of ancestors can be told, from an inspection of the form and physiology of their descendants. In his lecture, the author has, hundreds of times, selected from the audience persons unknown to him, and pronounced upon the respective ages of their ancestors. He usually comes within five years, and generally tells which. Of course, the death of such ancestor by accident and the like, occasions failures; but in hundreds of cases thus pronounced upon in public, he rarely errs five years, of which his numerous audiences are witnesses. A few examples:—

At my lecture in Marlborough Chapel, Boston, October 5th, 1843, I remarked, that the grandfather of a stranger selected from the audience as a test, lived to be at least 95. 'Above a hundred,' was his reply. Thus were predicted both the age and ancestor.

I remarked that the father of another, then on the stage, probably lived to be 85. The answer was 82, and then died of gout, which afflicted him sixty years.

I predicted that some of the ancestors of Mr. Booth, of Portsmouth, New Haven, probably lived to be from 85 to 90. He replied, that all except those now alive had reached 80, and some exceeded 90.

Mr. W. B. Kendall, of Boston, required me to pass judgment on the age of his grandparents. I answered, "they were second Methuselahs." He replied, that his grandfather lived to 101.

#### THE WHITMAN FAMILY.

In examining professionally the head of Rev. Jason Whitman, of Portland, Maine, I remarked, "Your ancestors on your father's side lived to a great age: I should judge to 90 or 95."

The next day he kindly presented me with a work, containing the genealogy of his family from John Whitman, called the ancestor of the Whitman family in this country, who lived to be about 90. From this work we take the following: "His brother, Zachariah, died at a great age. None of his sons died under 82, and some reached 90. His eldest son, Thomas, died at 83. Nicholas, another son, had four children who lived to be above 85, and two of them to 90." Judge Mitchell says of his descendant: "Four of them are now [1832] living, at the respective ages of 94, 87, 84, and 80." One of the latter was active and in good health in his 97th year. The fifth child of Nicholas lived to be 80. Eleven males, all descendants of Thomas, attained the following ages: 80, 81, 82, 83, 83, 83, 88, 90, 90, 95, and 96; and three females lived to 92, 95, and 98, and the longevity of the females has equalled that of the males. One of the daughters of Abia Whitman reached 92, and two of her sons about 80 each; and John, a son of Abia, was healthy when 80 years old. Five of the children of Ebenezer Whitman, a grandson of the ancestor, attained the following ages: 80, 86, 87, 90, and 94; and their father was very smart and active, and able to do a full day's work at 71, when he was killed by a loaded cart running over him. Samuel, another grandson of the ancestor, attained the age of 100; and another

grandson, died in his 80th year. Some of the fourth generation attained the following ages: 86, 83, 70, 88, 95, 80, 90, 95, 72, 75, 82, 80, 80; two others between 80 and 90; and one of them, Deacon Jason Whitman, the grandfather, if I mistake not, of the Rev. Jason Whitman first mentioned, recently died at the extraordinary age of 107, while another was living in good health when in his 97th year, and another in his 84th. One of this Whitman family had a son born when the father was nearly 80, and this son lived to be 80. Behold the predominance of the Whitman tenacity of life over all those with whom they intermarried, so as thus to stamp the impress of longevity upon almost all their descendants. What better patrimony could be left children than this of longevity?

In examining professionally the head of Mr. Horton, of Milk Street, Boston, whose firm does the second largest business in Boston, I said, "Your ancestors lived to be nearly 100." One of them attained the age of 92. These predictions were made Saturday evening, October 7.

The day preceding, I told a professional subject, that a grand-parent whom I specified, lived to be 95, or over; 102 was the answer.

Of another subject's grand-parents I predicted 95; 92 would have been correct.

Of another of the same party, I pronounced 90; it was 87.

To a similar question, from another of this party, I answered, "Your mother was consumptive, and is probably dead." She died of the disease at 40. If the son attains that age he will exceed my predictions.

All these predications with these results were made within THREE DAYS, and are but samples of what are continually occurring in my office and lectures.

In Manchester, 1843, I judged the age of Mr. Colborn, to be 95. His grandmother lived to be 93, and a sister of his grandfather was 90.

Of the ancestors of Mr. Cook, I said, "very aged." His father was 90; grandfather 88; uncle living at 92; and his sister at 85; while his grandfather's brothers were between 80 and 90.

I judged the ancestors of Jacob Smart to have been from 95 to 100. He had ten uncles and aunts then alive, whose average ages were 78, one being 87, some above 90, and all healthy.

I ascribed a great age to the ancestry of George Freeman. His father was then alive at 89, and very active and healthy, and his father's father died at 86, and paternal grandmother at 94, and her mother at the same age. His mother was 78, and both her parents 90. His grandfather's brothers and sisters generally lived to between 80 and 90.

#### DATA ON WHICH THESE PREDICATIONS ARE MADE.

Many think these predications perfect presumptions, yet they depend on scientific signs. And the signs which indicate all this are easily read.

The principal index of great longevity in a given person's ancestors, is an ample development of the VITAL APPARATUS; or a capacious chest, and of course large lungs, heart, stomach, and vital organs, with a proportionally smaller head. This general form—fulness of face and person, depth and breadth of chest, fulness of abdomen, and general breadth of structure—all betoken ancestral, and, extraordinaries excepted, personal longevity.

Yet this fulness of face and body is not the only sign of longevity. A spare, wrinkled, muscular temperament, which may be known by great distinctness of the muscles, bones, furrows, and projections; prominence of nose, eyebrows, chin, &c., also foretells tenacity of life. Of this, Elias Hicks, who lived to be 82, notwithstanding his extraordinary labours, furnishes an example. His father was very aged, and his descendants bid fair to be so.

One reason why longevity accompanies this temperament is, because its great ease of action accomplishes great labour, mental and physical, with comparatively little expenditure of vitality, so that the manufacture keeps pace with the expenditure; and another is, that this organisation is exceedingly tough, elastic, flexible, and powerful, as well as capable of astonishing endurance.

The predication as to whether this longevity is derived from the paternal or maternal line, is made on the following data. The male form or type of head differs essentially from that of the female; as will be seen in a work on "Woman," which will form a volume of this series. Yet sons often resemble their mothers, and daughters their fathers. This can easily and correctly be inferred. Hence, when I find a man who has the above described indices of longevity, and also large Firmness, Self-Esteem, Calculation, and other organs which more frequently predominate in man than

woman, I infer, and am rarely mistaken, that he inherits both his longevity and phrenology from his father, and of course that his paternal line is long-lived. But if a son have the smaller Self-Esteem and predominant Approbativeness, Philoprogenitiveness, and other organs, the predominance of which characterise the female head, the inference is that he "takes after" his mother; and if he has also the marks of a consumptive habit, I infer, and rarely fail of being correct, that he inherited this tendency from his mother; that is, that she was consumptive. But when the son resembles his mother, and she her father, I sometimes mistake the mother's father for the father; and thus of females. Where, also, the subject resembles both parents about equally, I cannot predicate from which side either longevity, talents, or diseases were inherited, only the fact that they were entailed. Yet while these exceptions sometimes prevent a correct predication of the side from which the various hereditary qualities are derived, they do not at all militate against the fact or the cognisability of such transmission.

Still, all descended from long-lived parents will not therefore necessarily live to an equal age; but if these parents had not impaired their health before their children were born, the children will have that native strength of constitution, which, if they do not violate the laws of physiology, will prolong their lives to an equal age. In order that descendants may inherit the longevity of their ancestors, two things are indispensable—that none of their ancestors have either married weakly companions, or broken their health by repeated abuses before the birth of any of their children, and that the children themselves have also so far obeyed the physical laws, as to have preserved their own health unimpaired. Thus, if A is descended from a long-lived stock on both sides, yet breaks down his constitution before he becomes a parent, his children will inherit his weakened constitution; or if A should both preserve his own health and also marry into a long-lived family, and thus transmit strong constitutions and great tenacity of life to his children, his children will still, if they abuse their health, die proportionally early. Hence multitudes, capacitated by nature to live to a great age, die young, and their children die still younger. Those habits in parents which shorten the lives of their children, also diminish the indices of long life in their children.

Let none, therefore, trifle with their health because their ancestors were aged; for ancestral longevity does not ensure their lives, unless they obey the laws of health. Let us therefore cherish health, and increase by culture our natural tenacity of life, so as to transmit this great patrimony—capability of longevity—to our descendants.

These indices of longevity also enable us to tell about how long, extraordinary excepted, given individuals will live. True, we cannot predicate the day or the hour of any one's death; but since we can estimate his peculiar amount of energy and the rate at which he is spending it, we can compute about how long it will last.

#### PREMATURE DEATH IS HEREDITARY.

The facts which prove this position are not less numerous or palpable than those just given in proof that longevity is hereditary. The children of those who die young, except when they die young by accident or some violent disease, rarely live to be aged, except where they inherit longevity from some ancestor. Hence sickly families usually "run out," whereas the vitality of long-lived families both increases the number of their offspring, and insures their life—a most wise and beneficent arrangement. The miserable physical habits, especially of our women, are enfeebling and burying nearly half of our children, and rendering parents too debilitated or diseased to propagate, and thus obliterating their name and race from the face of the earth. Look around, reader! Do you not know many parents too weakly or sickly to have living children or who have children so feeble, that the utmost pains are necessary to keep soul and body together?

## CHAPTER II.

## DISEASES HEREDITARY.

## CONSUMPTION HEREDITARY.

The celebrated Dr. Louis, of France, has discovered tubercles in the lungs of infants, at birth, both of whose parents were consumptive.

In Georgetown, Massachusetts, in 1844, the author examined professionally the head of a girl six years old, THEN AFFECTED with incipient consumption. Her mother was confined to her bed with it, and every day in fear of dissolution.

A father in Beverley, Massachusetts, buried a wife and ten children—all victims to this fell destroyer.

The mother of Mrs. H. died of consumption when about twenty. Mrs. H. died of it at about twenty-three, and left a daughter with all the indices of a similar predisposition.

Miss — was selected for examination by the audience, in Carbondale, December, 1845. I said, before the audience, that her mother was consumptive. The mother died of this disease.

To a professional applicant I remarked, "Your father's relatives, and probably your father, were consumptive." He replied that his father had buried every one of his brothers and sisters of that disease.

Of a lad examined the same day, I said, turning to his mother, "You or your family are consumptive, and your boy is in danger of dying of pulmonary affection before he is twenty, unless preventives are rigorously employed." The mother, weeping, answered that she had already buried his father of this disease, and inquired how it could be prevented. I referred her to a chapter on its prevention, to be found in "PHYSIOLOGY."

I spend few days professionally without predicating the disease of one or more applicants, and scarcely ever fail of being correct, and usually predicate the parent whose relatives have been thus predisposed.

My mother died of consumption at the age of thirty-three. Her otherwise strong constitution delayed its termination for seven years after it was seated. An aunt and a cousin have both died of the same disease. She inherited it from her mother's side, though many of her relatives, named Field, are long-lived. It comes through my grandmother's parents, four generations back, and I have traced it one or more from them down in every family of their children, grandchildren, and great-grandchildren.

I am predisposed to it. I induced it by ignorantly exposing and abusing my health at the ages of fifteen, eighteen, and twenty-two—yet it was arrested, and has been kept at bay till the present time, mainly by the exercise of my lungs in speaking, and by practising those directions for avoiding consumptive tendencies, given in "PHYSIOLOGY." By following the preventive regimen there specified, almost any one, however predisposed, can both ward it off, and live comfortably to a good age.

## SCROFULA HEREDITARY.

Scrofula is closely allied to consumption—it is the genus of what consumption is the species. It is a tuberculous disease, which attacks at one time the lungs, and generates consumption; at another the stomach and other internal organs, inducing obstinate dyspepsia, internal ulcers, &c.; at another the bones, causing white swellings, distorted osseous formations, and muscular debility, or rheumatic tortures, and at other times other portions—the brain and nervous system in particular. It might be called the parent of consumptive predispositions.

## LUGOL'S PRACTICE.

"A lady who possessed a good complexion, and every mark of good health, nevertheless had children and grandchildren who were scrofulous. This astonished her very much, although her sister was affected with the same complaint. She had a third sister who was a little rickety, to whom she bore no resemblance twenty years before. But since they had passed the prime of life, these two sisters had



become strikingly similar to each other. The first time I noticed it was on seeing them weep together for the death of a scrofulous child, a relative of both. They wept in the same manner. Now they have the same tone, the same accentuation, a peculiar movement of the commissures of the lips, which results partly from the loss of the same teeth in the two sisters; their features generally are wrinkled in the same manner, and the family likeness has become very apparent. On inquiry we ascertained that the scrofula was general in the family, and inherited from the father.

"Twelve years since, I treated the only son of a lady who had eleven children. This patient, nineteen years old, had a white swelling of the right foot. His mother died of a pulmonary complaint, a few years previous.

"This girl was an only child, having lost an elder sister, who died when thirteen years old, covered with abscesses after an attack of the variola; a brother with hydrocephalus, who died when two years and a half old, and another brother, who died at the age of eighteen months. Her paternal uncle had had eight children, six of whom had died already. Only two remained, one of whom was affected with tubercles, and was emaciated; the other was very delicate."

He cites cases in which the same scrofulous parent had scrofulous children in two and more marriages, and others which showed that a healthy parent had by one marriage, with a healthy companion, healthy children, and by another, a scrofulous partner, scrofulous children. His citations are as follows:

"The father of this young man—a scrofulous subject—had six children by a first marriage; all were tainted by scrofula. He had six children by a second wife; all were exempt from this malady.

"I know a robust man who married two sisters, both of whom had pulmonary tubercles; he had scrofulous children by each marriage. By the first wife he had two, one a boy, who died when three years old, of disease of the mesenteric glands, and the other a girl, who died when twelve years old, of rachitis, and pulmonary tubercles. He had three children by his second wife, who died of consumption—two of them at a very early age, while the third, when four years old, was so weak as still to require nursing.

"Condert, a patient at the hospital, St. Louis, in 1829, was affected with several severe varieties of scrofulous diseases. The father of this young man had four children by his first wife, all of whom were healthy, and three by his second, all of whom had scrofula; our patient was one of them. The second wife had been married before, and had four children by her first husband, two of whom had pulmonary tubercles.

"Finally, I have seen the case of a man who married three times and had scrofulous children only by his second wife. He had three children by this marriage, a boy, who entered the hospital St. Louis, and two girls; one of them died when ten years old, of a white swelling of the knee; the other had tubercles in the neck in infancy, but enjoyed good health when forty years old. The man's children by his first and third wives were healthy.

"In May, 1837, Delpech died at the hospital St. Louis with tubercles, leaving four young children, all of whom died tuberculous in less than three months after their father; the eldest was less than seven years old.

In many of these cases, the third generation never sees the light; the mothers most generally miscarry, and some never bear a full-grown child."

#### SYPHILITIC DISEASES TRANSMITTED.

I knew a young man, the son of virtuous parents, but whose mother had been infected with the venereal virus by a former dissolute husband, who was full of loathsome ulcers at birth. The disease finally located in his hip and knee joints, which were drawn out of shape in a dreadful manner, so that he could hardly hobble about, and his whole life was one of great suffering. The mother's health was much improved by a transfer of the disease to her offspring. The children of a certain class of females in our cities and villages are almost always diseased. The great majority of our vagabond children are of this parentage, and most of them have scrofula in one or another of its forms, or some other loathsome disease or deformity, as all can see who will examine. The children of licentious parents are often actually rotten with syphilitic ulcers at birth, and are the most pitiable objects upon which the sun can shine. Such diseases, however, when not extremely aggravated, generally develop themselves in the form of scrofula, and as such are transmitted till they extinguish the families subject to them. Some physicians consider scrofula as originating mainly in this vice. This doubtless exceeds the truth, yet there is no telling how frightful a

source of disease this vice has become. The children of virtuous parents often die in consequence of licentious ancestors, consigned to the tombs before they saw the light. On the transmissibility of this disease, hear Lugol again.

"I have known scrofulous children whose parents have been syphilitic, or even were so when their children were conceived.

"In the hospital St. Louis we have a patient, named Guillen, who is scrofulous, and affected with tubercles and caries; his father had been syphilitic several times.

"Young Dasailly had a scrofulous exostosis of the left thigh, and her mother had a similar affection. In another case, we saw at the hospital a child ten years old, with scrofulous tubercles; her mother admitted she had primitive symptoms of syphilis, and that she was then affected with exostosis and syphilitic ulcers.

"The syphilitic origin of scrofula is still more marked in the following case, that of a family of three children, where the two elder were well, and the third had scrofula. The last was eighteen years old, and was no larger than a child twelve years old, his growth having been retarded by scrofula. The difference between the health of our patient and that of his brother and sister, is worthy of remark; the father of these three children, when he led a regular life and enjoyed good health, had children who were vigorous and healthy. But some years after, his habits became dissipated. At that time, while exhausted and syphilitic, having also infected his wife, he had a third child who was born scrofulous, and whose life was only a succession of uninterrupted suffering, till the age of eighteen, when he died of marasmus."

Other authors bear a kindred testimony. The world is full of practical examples of the evils of licentious indulgence. The fact is notorious, that the crews of American and European vessels which visit the Pacific, shamelessly revel in lustful debauch with the native females of those islands, and have done so for many years, and the consequences are, that the syphilitic disease afflicts nearly all the inhabitants of both sex and all ages, and destroys them so fast, that, at the present rate of decrease, in sixty years it will completely depopulate those once crowded and happy islands.

Whole provinces in India have also been nearly depopulated by a similar importation of this disease among the natives, by their intercourse with the English. I state this fact on the authority of eye-witnesses, and add to it, on the testimony of one who knows and has seen, that this disease is also ravaging China, introduced by licentious Caucasians. These races, being less powerfully constituted than our own, are cured with greater difficulty, and swept off much more rapidly. But it will prove too strong for us, unless arrested.

RIGID VIRTUE is thus enforced upon youth in tones louder than the thunders of Sinai. Just so far as parents contract this virus, will their posterity, generation after generation, be tainted, and probably destroyed. Let the young take heed to their ways, and avoid this awful calamity by keeping themselves uncorrupted.

#### GOUT AND APOPLEXY.

Gout is beyond doubt transmitted. This painful disease can indeed be engendered by luxurious living, in those whose parentage is wholly free from it; but the great majority of those who are afflicted with the gout will be found to have both ancestral and collateral relatives similarly afflicted.

APOPLEXY, a near relative of gout, is also hereditary. Medical works cite many cases in point. A friend, in a recent walk, apologised for his slow pace by saying, that his limbs had been benumbed a few day before with a paralytic shock. His father and uncle had both died of paralysis.

#### CANCERS AND RINGWORMS.

A Mr. Rugg, of Heath, Massachusetts, died a lingering death of cancer. Soon after his brother was taken down in the same way, and after having suffered beyond account, died of a cancer in his face.

A friend of the author had a cancer taken from her head. Her cousin had a cancer cut out. A grandmother's sister, and one aunt of these two, died of cancers.

Mrs. Kitteridge died of a malignant cancer, after it had eaten into her breast and vitals and caused her to suffer intensely. One of her sons died of the same disease, and two of his daughters, when about ten years old, each had a cancer on the face. One of his brother's daughters has a malignant cancer on the face. She resembles her uncle; and he resembled his mother in complexion, stature, looks, &c.

The ringworm predisposition is also hereditary. A professional applicant of the author had a ringworm which almost covered the side of his face, and was highly inflamed. His mother died of a similar one; so did several of his own brothers and sisters and also several relatives on his father's side.

#### DYSPEPSIA AND HEART AFFECTIONS.

Dr. Lyman Beecher has always been troubled with dyspepsia, of a peculiarly obstinate and painful kind. His father, Deacon Beecher, of New Haven, Connecticut, was similarly affected, and so are nearly every one of his children, and some of his nephews and nieces.

The author has suffered twenty years from a similar affliction. His aunt was unable for years to eat anything but rye pudding and milk, but by this means effected a cure. Others of the family are troubled in like manner.

But one general range of facts, little suspected to establish this conclusion, deserves remark, not merely as a sweeping proof of this doctrine, but as a precautionary warning to all whom it may concern. The children of dyspeptic parents will generally be found to suffer severely from bowel complaints. I need not particularise. Produce a dyspeptic parent, and his children will be found to have feeble digestive powers, to be often disordered in their bowels, and with difficulty brought through their second summer. Some of them, too, will probably be found to have gone into premature graves in July or August. Reader, put these two things together—the fact that more than half the parents in this country are more or less dyspeptic, caused by eating enormously and very fast, as proved in the author's work on "PHYSIOLOGY,"—and that half our children die under five years of age, mostly of summer complaints. Behold the frightful mortality of children in August! The legitimate consequence of originally feeble digestive powers; and these weak by parental inheritance. The children of robust parents do not die thus; but those of delicate, white-livered, thin-faced, small abdomen, sedentary parentage fall in summer like grass before the mower.

Heart affections have been associated with dyspeptic difficulties, because the relation of the two is very intimate. Imperfect digestion often leaves the blood too stagnant and thick to pass freely through the heart, and hence its palpitation. Dyspepsia being transmitted, we rightly infer that therefore heart difficulties are equally so.

#### CALVIN AND ALEXANDER EDSON.

Calvin Edson, of Randolph, Vermont, died a few years ago a mere skeleton, weighing only forty-five pounds. His extreme emaciation rendered him so great a curiosity, that he was exhibited as a show. He ate voraciously, and dissection disclosed the cause—an enormous tape-worm.

His brother Alexander, college-educated, and formerly a practising physician, has been gradually losing his health and flesh for years, and now weighs only fifty pounds, though above forty years old. The *Woodstock Herald* says of him: "In this tight dress, he more resembles a skeleton in clothes than a living being." He is undoubtedly consumed, like his brother, by a tape-worm, bred by a disordered stomach inherited from parentage.

Worms are bred by stomachic corruption, and the parents of those children who are much troubled with them, will generally be found to have impaired digestion, and to have been similarly troubled in youth. Rectify the stomach, and this will eject worms and prevent their recurrence. But of this point in Physiology, Animal and Mental.

#### ENDURANCE OF HEAT AND COLD.

Whole families, so far as they can be traced, will often be found, most or all of whose branches are easily overcome with the cold; shivering and pinched when subject to it, and thriving, like plants, only in the warm weather. The great-grandmother of an insane subject mentioned hereafter, was from Jamacia, and could hardly endure our winters. When old, after having loaded herself with flannel garments, she wrapt quilts around her body and feet, and then shivered with cold. Her daughter was similarly, though less, affected by cold, and her grandchildren, great-grandchildren, and great-great-grandchildren like warm weather, but endure cold with great difficulty, and are usually partial to the fire. Similar cases are common.

A correspondent communicated the following for the American Phrenological Journal :

"John Clark, a native of Connecticut, who was born more than a century ago, was peculiarly affected by changeable or cold weather; his hands became benumbed and almost useless; his tongue stiffened, so that it was with great difficulty he could give utterance to his ideas; the muscles of his face contracted and stiffened; and one or both eyes closed in a very peculiar manner. This took place in the cool mornings of every month in the year. How it was with his ancestors I am not certain, but believe it to have been the same with many of them. But about one-half of his children inherited the above afflictive peculiarity in a remarkable degree, and also many of their children, and so on till the fourth generation; while the other part of his family have inherited the physical and mental qualities of their mother, who was a Miss Elizabeth Rogers, supposed to be a descendant of the martyr Rogers, who, with their descendants, are exempt from this infirmity.

L. H. B."

There are opposite cases of whole families who can endure cold. Of this all can witness examples who will take the trouble to inquire them out.

Some families and their branches can endure heat remarkably. Others are easily overcome by it.

#### SUDDEN DEATH HEREDITARY.

Instances of sudden death occur in some families. Some eight or ten members of a family named Livermore, who resided in New Hampshire, have died suddenly of heart affections, though apparently well at the time. These belonged to some four successive generations.

Joseph Eaton died suddenly in Framingham, Massachusetts, and his brother and sister died almost instantaneously—one, while singing in church, and the other while preparing to visit her friends.

Dr. MILNER, rector of Beekman Street Church, New York, died suddenly when in excellent health, as did also his father and brother.

#### CUTANEOUS AFFECTIONS.

The undue redness or slight eruption on the face of the author is hereditary, though slight in his father, and a paternal uncle and aunt. It occurs in our relations in Canada, though we parted four generations back. Jonathan Fowler, the giant, had a peculiar though harmless swelling of the veins of the leg. His great grandson William, and his son William, of Bradfords, Vermont, had a kindred swelling. So has the author and his father. So have other descendants of this progenitor.

A Mrs. Whitney lost several children by a bad humour, which they inherited from her.

Mr. E. F. Chaffin, and his mother, maternal grandmother, and all his brothers, were affected with a dry and shrinking skin, and consequent cracking, bleeding, and soreness of their hands and faces.

Salt rheum and erysipelas are also hereditary, and can be traced both backward and laterally in nearly all those cases where they appear.

Blindness, deafness, and stammering are often transmitted. Dr. Howe's researches establish these positions. Four of the eight children of James A. Bullard, of Monticello, New York, are blind, and have been since about their fifth year, before which they saw. Their parents see, but an aunt is blind. Weak and defective eyes are often inherited, as all can see for themselves.

Both near-sightedness and far-sightedness are often entailed, and so are cross eyes. The *St. Louis Gazette* says: "A friend recently met an emigrating family, the father, mother, and all the children of which—not a few—down to the smallest urchin, were CROSS EYED.

Stammering is hereditary. Daniel Webster's grandfather stuttered badly. His father lisped all his life, and Ezekiel, Daniel's brother, was never able, though he laboured hard, to speak some words correctly.

#### HEMORRHAGE HEREDITARY.

That lung hemorrhage is hereditary, has been virtually established in proving that consumption is hereditary.

Tendency to nose-bleeding is also transmitted. So is the bleeding tendency in general. In 1844, a man living on Cape Cod was bleeding, and had been for several weeks, from only a small wound, notwithstanding every effort, made to arrest the hemorrhage. Already he had become very weak, and feared he should BLEED TO DEATH from a wound which would ordinarily have ceased in a few minutes. Two of his brothers had already bled to death from slight wounds, after a perpetual flow of blood for months. Their parents escaped, but one of their grandparents, and a brother of their father, had died of hemorrhage.

The Rev. Mr. Luther transmitted the following to the author, for which he has our thanks. It was copied from an English paper, and headed "Singular Circumstance."

*"Carbondale, May 9, 1846.*

"MR. O. S. FOWLER:

"Dear Sir,—The following 'Singular Circumstance' is related in an English paper. You may have seen it. If so, I have only lost my trouble in writing. You can make what use of it you deem advisable. The fact speaks volumes in favour of your theory of hereditary descent. Thousands will read the account—pronounce it a 'singular circumstance,' or a 'strange coincidence'—and forget it altogether. When will men learn that Nature is subject to law, and knows nothing of 'singularities,' or 'coincidences'?"

"But the fact itself: 'On Saturday, a little boy, at Wolverhampton, fell, and cut his gum, but not severely. The bleeding, however, could not be assuaged, though every means were tried that surgical skill could suggest. The child died on Tuesday morning, from loss of blood. At the coroner's inquest, Hannah Philips, grandmother of the deceased, stated that she had lost four children from bleeding to death, and that in the family twelve other persons—making altogether sixteen—had bled to death, not one of them having been seriously injured. The injuries were slight cuts or falls. Some of them had bled to death from teeth having been drawn. Medical aid had been always procured, but without effect.'

"I should be glad, for one, to see the above in the 'Journal,' with some remarks from your pen.

Yours truly,

"H. E. LUTHER."

Dizziness, fits, tic-doloureux, and rheumatism, are in like manner transmitted. A father, known to the author, is often taken dizzy so suddenly, that he falls in the midst of his work, and is days in recovering. His son is similarly, though less severely, afflicted.

Several members of a family in Vermont, named Chase, have died of fits, and others, still living, are subject to them. This convulsive tendency has descended at least three generations, probably more. Similar cases are numerous.

The author saw a child, about ten years old, in Boston, in 1843, rendered intolerably wretched for weeks together by inflammatory rheumatism, or a neuralgic affection. It lay on its grandmother's lap, and the least change of position caused the most excruciating pains. Yet one position soon tired it, and every move, whether for change, or because the grandmother was unable to keep perfectly still, caused it to scream out with agony, as if pierced with needles. In this pitiable condition it had lain for three weeks, but was then getting better. It had been similarly attacked before. Its mother, whenever she took cold, was similarly, though less severely, tortured, and her father died of the same nervous disease. So did two of her paternal uncles, and two cousins, having first suffered beyond account. Others of this neuralgic family were subject to similar tortures. The grandmother in attendance traced it to four generations, and in all the various branches, from the first sufferer. Its virulence increased as it descended.

Kindred instances of the transmission of both rheumatism proper, and also those distressing complaints, the tic-doloureux and neuralgia, are almost co-extensive with these diseases themselves, of which many readers are doubtless painful examples, and all may be observing witnesses. How common to see father, children, and grandchildren rheumatic! How often do severe headache—sick headache especially—descend from generation to generation as far as they can be traced! So of early and excessive toothache and decay, as well of sound and handsome teeth.

Several diseases collectively, having their origin in as many ancestors, are often entailed upon some families to their speedy destruction. The author examined, professionally, a family of children in Woodstock, Vermont, in 1844, both of whose parents were dead, and who had inherited consumption from one parent, insanity from another, and the club-foot from a grandparent. A similar complication of several

diseases, derived from several ancestors, is by no means uncommon, and would, of course, be expected, where more than one progenitor was disordered—that same law which transmits any one also transmitting as many affections as can co-exist in any or all the parents and grandparents. This complication will doubtless serve to account for many premature deaths otherwise unaccountable—the deceased having inherited a little of one disease from this ancestor, and a little of that from another, and so on, till the scion, though from a comparatively healthy stock, is borne down into an early grave by a combination of diseases, no one of which was alone sufficiently aggravated seriously to affect that ancestor or the descendants, but which, collectively, are insupportable.

### PREVENTION OF INHERITED DISEASE.

That diseases are thus transmitted by inheritance, is thus rendered perfectly obvious. But can they not be PREVENTED? Does this transmissibility of disease COMPEL the offspring of consumptive parents to be consumptive, and render those of deranged ancestors necessarily insane? If so, fatalism, in its worst form, is proved to be a law of things. But this is not the case.

When parents become so thoroughly diseased that they cannot reproduce children endowed with sufficient vitality to live to a good age, as well as to enjoy life, Nature generally prevents their becoming parents. Disease prostrates: and hence those parents who have sufficient vitality and energy remaining to plant the seeds of life, so that they shall take root, by due maternal regimen, as shown in "Maternity," have living children; and all children endowed with sufficient energy to *begin* to live, can, if rightly carried, be ushered into the world; and all such can live, grow up, enjoy life, propagate, and attain a good age. Hence her provision, that thoroughly diseased parents shall be childless. Rendering those parents barren, who are too diseased to have children sufficiently healthy to enjoy life, is a blessing even to parents, and no injury to any; and hence this hereditary landmark. So far from propagating disease in its worst stage, she even extinguishes those families who are too feeble or sickly to have healthy children. Now a scrofulous youth, by violating the laws of health, can enhance the scrofulous inheritance, and thus become more scrofulous than his parentage, or he can *diminish*, and even effectually *ward off*, this tendency, by a due observance of the conditions of health. Thus diseases can be aggravated till they extinguish whole families, by rendering the last generation impotent, or burying them before they are old enough to become parents; or they can be diminished, generation after generation, till the descendants are completely rid of all traces of the ancestral debility. This law governs all diseases. Both those cancerous cousins already mentioned, three of whose ancestors died of malignant cancers, have long been free from this family malady, and will undoubtedly escape. They both received a superior physical education, which so strengthened their constitutions as to ward off this tendency. It is comparatively overcome; and though a slight predisposition may lurk in the veins of their children, yet, by fortifying their constitutions, they may be completely purged from this cancerous virus. All forms, all aggravations of disease, may in like manner be completely eradicated from all families. To *know how*, and then *do*, is all that is required to effect a radical extraction of all diseased tendencies, and substitute, in their stead, health and longevity.

Yet the ruinous physical habits of most parents seem to aggravate instead of decrease, hereditary diseases; and the penalty often blots out their names and race from among men. Nature is determined to secure a healthy stock upon the earth or none, and the course she pursues is as perfect as it is beneficial.

Take consolation, therefore, ye who have married diseased companions, or are hereditarily tainted yourselves, or have induced disease by the abuse of health. Your case, though less promising than if both were healthy, is not only not desperate, but merely LESS HOPEFUL than it otherwise would have been. It is not as bad, but only NOT as GOOD, as it might have been. Your children, though liable to disease, may both escape it, and rationally hope for a tolerably long and happy life. As, in case you should die bankrupt, your children will not be obliged to pay your debts, but would only have to begin without capital, so if you are tainted with disease, they will not be necessarily saddled with all your maladies, but will simply have to begin life on a small capital of vitality or health—yet sufficient, by proper management, to allow their collecting a good estate of life and its pleasures.

For the same reason that unhealthy parents need not despair for their children, those whose ancestors and relations may all have died of one or more diseases, need

not despair; for by a *proper regimen*, they may reasonably hope to live happily till they see their children fully grown, and established in business.

These views do not absolutely refuse a matrimonial certificate to those who have sufficient vitality remaining to propagate, but they append to this boon a double injunction on all such to employ every known means to PRESERVE and RESTORE their own health and that of their offspring.

Nature ordains that every day of life up to its meridian shall increase vitality and health. How often do children "outgrow" the diseases of infancy and adolescence? How often do the delicate, and even sickly, become hale and hearty men and women? True, diseases also "grow upon" childhood, youth, manhood, and old age, but in such cases the disease is aggravated by an infringement of the laws of health. Nature's universal economy is to *obviate* evil, never to aggravate it. That economy subserves HAPPINESS—not misery. Any feeble organ can be strengthened. This is a law of things. Consult "EDUCATION" and "SELF-IMPROVEMENT" on this point, the entire tenor of which is to establish the improbability of all the elements of human nature, and to show men how to effect this their improvement. Consult "PHYSIOLOGY" as to the improbability of those physical organs now under discussion, and also as regards the restoration and improvement of health and cure of diseases. This principle of improvement is INDUBITABLE—a universal LAW OF THINGS—and therefore allows children, weakly by nature, and even diseased, to become stronger and stronger, till energy supplants debility, and health disease. It is not therefore impossible for diseased parents to have healthy children, nor is it impossible for hereditary diseases to be ultimately eradicated.

Yet far be it from me to encourage the marriage of the seriously diseased in the present state of physiological knowledge and practice. Though it is possible for the children of diseased parents to live and become healthy, yet this rarely occurs; nor can it be expected except where the conditions of health are thoroughly known and rigidly practised. And this, alas, is extremely rare. I therefore solemnly warn all who are hereditarily predisposed to any disease, never, on any account, to marry, UNTIL they have thoroughly investigated the laws of health, and brought themselves to the solemn determination to enforce them practically on themselves and their children.

Readers may accuse me, with some show of propriety, of affirming that diseases are hereditary, and then saying that they are not; and of granting the largest matrimonial liberty and then revoking that license; yet those who bring this accusation have not comprehended the true tenor and spirit of our arguments. No one interpretation of Nature yet given has been revealed or contradicted, but every position taken has been sustained by an order and amount of proof absolutely irresistible. We have shown that a liability or exposure to disease rather than an actually diseased condition is transmissible, yet that such liability can be obviated and disease staved off.

The sum of all this is: SELECT HEALTHY COMPANIONS, and let all prospective parents ASSIDUOUSLY PRESERVE THEIR HEALTH.

### INSANITY HEREDITARY.

Of all the victims of disease, those are most to be pitied, whose REASON is dethroned, and whose MINDS are wrecked. He who can lay violent hands on his own life, because his malady renders his life intolerably wretched, must indeed be tortured with unutterable AGONY.

Though the effects of insanity are mental, its cause is PHYSICAL. Its seat is in the brain. Insanity consists in the diseased condition and action of the brain and nervous system.

The tendency to insanity always accompanies an extremely excitable temperament, and consequent liability to inflammation, both cerebral and general. This excitable organism is of course transmissible. Of course its product, insanity, is hereditary.

### SUICIDAL INSANITY.

Many of the descendants of a New Yorker, named A—, have been deranged for five successive generations, yet have been eminently talented. This A—, whom we will christen the ancestor, was queer, eccentric, fussy, fidgety, and partially deranged in the matter of property, being perpetually harassed by fear of coming to poverty, though well off. One of his grand-daughters was so far deranged that she was called crack-brained. His daughter B—, a woman of superior intelligence

and domestic capability—was subject to periodical derangement on the subject of religion, and suffered everything from religious gloom, and the concomitant fear that she was doomed to be eternally damned, had committed the unpardonable sin, and forfeited all hope of mercy. Just before the recurrence of these fits she would go about the house with her hands clasped on the top of her head, which she often held in the steam as it issued from the tea-kettle, for relief, because of the intense pain located there, meanwhile moaning piteously, and wishing she was dead; and in this state she often attempted to commit suicide, yet lived to the age of seventy-eight years.

She was likewise deranged in her domestic organs. When her husband went to New York, she always insisted on bearing him company, because separation was so exceedingly painful; and when he went into the fields, she would watch him as long as she was in sight, and then look every few minutes to see if he was returning.

One of her daughters, a Mrs. C., whenever any way unwell, was full of conceits—now fancying that her 'inside was dead,' and that she should expire in a few minutes.

A son of this B., and brother of Mrs. C., died suddenly in the insane hospital at Hartford, probably by his own hands, after having been more or less deranged for many years, and almost continually threatening his own life; and his son destroyed himself on account of disappointed love. Another son as lately evinced marked indications of insanity.

Another son of B. became deranged, and remained so for years, in consequence of being obliged to repay a small note already paid but not taken up. Whenever company called to see him, he would refuse to be seen, and hide himself under the bed or in the closet, constantly alarmed with groundless fears that the constable would take him off to gaol, that he should come to abject poverty and starvation, and the like. A highly intelligent daughter of his is extremely sensitive, and probably only lacks due provocation to become deranged.

Another son of B. was similarly affected, and would walk the floor by the hour, wringing his hands and twisting his handkerchief in great but ideal distress of mind. He was always extremely gloomy.

Another son was also deranged in the matter of money, and had also other whims. Every child of this deranged B. was more or less deranged.

One of the sons of Mrs. C., and, of course, grandson of B., became deranged at about his twelfth year, and has remained so ever since—the direct cause was being excessively frightened by fellow-apprentices. He has been an inmate of the Hudson lunatic asylum. His derangement takes the same form as his great-grandfather's, the ancestor A., so that he is in constant fear of being robbed or cheated. It also takes the religious form which obtained in his grandfather B.

Another son of Mrs. C., on becoming dyspeptic, could not be induced to mount any carriage for fear of falling. He always fancied that he was about to die, and had other conceits similar to those entertained by his mother. He also has the same desire to be ALWAYS in the bosom of the family, evinced by his grandmother B., and is all anxiety when absent from them.

One of his sisters was so nervous for a long time that a rap at the door, or an unexpected noise, induced extreme trepidation. She was temporarily deranged on the death of two of her children. She, too, like her grandmother B., refuses to be out of sight of her husband more than an hour at a time, and often complains of a severe pain in the organs of Union for Life—the lower part of Adhesiveness. Separation from her children is also extremely painful. She is, moreover, sometimes subject to extreme depression of spirits—to that feeling of unworthiness, or being in the way, and not wanted, incident to her grandmother—and also has seriously contemplated suicide. One of her children makes the greatest imaginable ado over her little hurts and provocations, and often says, 'I wish I was dead,' as earnestly as if she really meant it. She also mourns the absence of her mother very piteously. Another child is similarly disposed.

Another son of Mrs. C., and grandson of B., evinces incipient insanity—is all on nettles whenever separated from his family, and has frequently threatened to kill himself; he also repeatedly suffered delirium-tremens induced by intemperance. His children evince the same nervous irritability just described as appertaining to the children of his sister.

Another son of Mrs. C., who takes after his father, has escaped all signs of derangement—unless unusual irritability may be considered as one—yet some of his children have both the high order of talents, and also the phrenological organisation of their aunt, grandmother C., and great-grandmother B.



Another granddaughter of B. is extremely sensitive and melancholy, and has small Hope, prodigious Cautiousness, and a most susceptible temperament; and her sister committed suicide. Grief and derangement, occasioned by the absence of her husband, and his not writing to her, and a consequent imagining that she was in his way and not beloved, made her desire death, and take this means to induce it. Another sister died of melancholy. This catalogue embraces nearly all the descendants of the ancestor. Still this insane tendency diminishes in the descendants.

The ancestor had a granddaughter named B., who was courted ten years by one man, and ultimately taken advantage of, and was likely to become a mother. Though the law obliged her guilty paramour to marry her, yet her mortification, grief, and melancholy were such as to cause her death. Most of the descendants of a son of A. and brother of B., though eminently talented, and one of them a judge, have their peculiarities and eccentricities, so much so that they are often denominated 'a strange set.'

Peter McKinsley was deranged on the matter of poverty, and committed suicide because he feared he should come to poverty, and see his family starved; though, on the settling up of his estate, it was found there were four thousand dollars left to each child. One of his daughters, Susan, married a shiftless, improvident man, and being apprehensive of coming to the poor-house, attempted suicide. She once ran away, and for one or two days could not be found. At length, in the search for her, her child was carried within her hearing, when its cries penetrated her soul, and she went to its relief. She once got up in the night, and went to a neighbouring pond, and jumped in, in order to drown herself, but the immersion cured her suicidal fever, and she returned to bed.

Of a professional applicant at Syracuse, in 1842, the author predicated excessive elevation and depression of spirits, or ups and downs, and of course liability to extreme melancholy, inferred from his immense Cautiousness, small Hope, and extraordinary excitability of temperament. He stated, in reply, that most of his paternal relatives, as far back and on each side as he could trace them, were similarly affected and added, that his father and one of his uncles and a grandfather committed suicide, and that he at times restrained himself from a similar perpetration only by great exertion, so strong was his tendency to this revolting deed. I had previously known his cousin in B——, Vermont, who by turns suffered intolerably from melancholy, and had threatened his own life. A son had a similar temperament, with deficient Hope. Rush, 'On the Mind,' narrates the following analogous cases:—

"It is a singular fact in the history of suicide, that it has sometimes been hereditary in families. There are two families in Pennsylvania, in which three of their respective branches have perished by their own hands, in the course of a few years. Similar instances of this issue of family derangement are to be met with in other countries.

"Captains C. L. and J. L. were twin brothers; and so great was the similarity of their countenances and appearance, that it was extremely difficult for strangers to know them apart. Even their friends were often deceived by them. Their habits and manners were likewise similar. Many ludicrous stories are told of people mistaking one for the other.

"They both entered the American revolutionary army at the same time. Both held similar commissions, and both served with honour during the war. They were cheerful, sociable, and in every respect gentlemen. They were happy in their families, having amiable wives and children, and they were both independent in their property. Some time after the close of the war, Captain J. removed to the State of Vermont, while Captain C. remained in Greenfield, two hundred miles from his brother. Within the course of three years, they have both been subject to turns of partial derangement, but by no means rising into mania, nor sinking into melancholy. They appeared to be hurried and confused in their manners, but were able constantly to attend to their business. About two years ago, Captain J., on his return from the general assembly at Vermont, of which he was a member, was found in his chamber, dead by his own hand. He had been melancholy a few days before to this fatal catastrophe, and had complained of indisposition the evening previous to the event.

"About ten days ago, Captain C., of Greenfield, discovered signs of melancholy, and expressed a fear that he should destroy himself. Early in the morning of July 5th, he got up, and proposed to his wife to take a ride with him. He shaved himself as usual, wiped his razor, and stepped into an adjoining room and there destroyed himself.

"The mother of these two gentlemen, an aged lady, is now in a state of derange-

ment, and their two sisters, the only survivors of their family, have been subject for several years to the same complaint.

"Insanity generally attacks in those stages of life in which it has appeared in the patient's ancestors. A general officer who served in the American army during the revolutionary war, once expressed a wish to a brother officer that he might not live to be old; that he might die suddenly; and that if he married he might have no issue. Upon being asked the reason for these wishes, he said he was descended from a family in which madness had sometimes appeared about the fiftieth year of life, and that he did not wish to incur the chance of inheriting and propagating it to a family of children. He was gratified in all his three wishes. He fell in battle between the thirtieth and fortieth years of his age, and he left no issue, although he had been married several years before his death. A similar instance of the disease appearing at the same time of life, in three persons of the same family, occurred under my notice in the Pennsylvania hospital. It came on in a father and two sons between the sixtieth and seventieth years of their lives.

"Application was made some years ago for the admission of three members of the same family into the Pennsylvania hospital on the same day. I have attended two ladies, one of whom was the fourth, and the other the ninth, of their respective families, that had been affected with this disease in two generations.—Rush "On the Mind."

EGBERT FOSTER, a young man in Tennessee, much esteemed by all, committed suicide by shooting himself one Tuesday morning. His father and brother had previously died by their own hands.

JOSEPH PRATT, of Braintree, Vermont, was deranged and destroyed himself. His mother destroyed herself, as did also *her* mother.

Mrs. PHILLIPS, of Stockbridge, was deranged, and two of her sons and one daughter committed suicide. A son of one of these persons did the same. His brother, a promising young physician, though engaged and published to be married, and making arrangements to complete the nuptials, on returning from a professional visit, destroyed himself. One of his sisters was deranged.

In Sacket's Harbour poor-house I saw a man deranged on destructiveness, who had been chained to the floor of his dungeon for many years, on account of his fierce and destructive disposition, having attempted to kill even those who fed him daily. Ignorant of the extent of his mania, I entered his cell, when he flew vindictively at me as if he would have torn me in pieces, but his chain prevented his quite reaching me. His mother committed suicide, and was strongly suspected of having committed murder.

#### THE PURRINGTON FAMILY.

In 1806, Mr. Purrington, of Augusta, Maine, horrified the whole country by perpetrating one of the most shockingly barbarous murders on record, and then committing suicide. After evening worship, about ten o'clock, he was reading the twelfth chapter of Ezekiel, in which the phrase often occurs: "And I did as the Lord commanded me." Soon after the children retired, and while his wife was nursing her infant, he seized an axe, and killed, first the child, next the mother, and then flew upon the other eight children, striking them down as they were endeavouring to escape. Two of them hearing the noise, came down stairs half-dressed, and sprang for the door, which he had taken the precaution to fasten. While they were delaying in getting it open, he destroyed one of them, and seriously wounded the other, and then destroyed himself and laid the instrument on the open bible where he had been reading. The wounded lad fled in the snow to a neighbour's, and survived to tell this horrible story. He finally died of the wound inflicted by his father.

Captain Purrington, a nephew of this family destroyer, jumped overboard and drowned himself.

A niece of the former and cousin of the latter killed a step-child; and another niece, after having tried various methods of taking her own life without success, at last consummated the fatal deed.

Another niece proved a perfect virago to one of the best husbands. Besides often abusing him most outrageously with her tongue, she frequently beat him almost to death with the broom, poker, and whatever else she could lay hands on, and at length left him. She ultimately however repented and returned.

Joshua Coffin writes as follows concerning:—

#### THE SEWELL, BARTLETT, COFFIN, AND OTHER FAMILIES.

"Henry Sewell, who came to this country in 1634, was a distinguished man, but

occasionally subject to turns of derangement. In every, or nearly every generation from that time to the present, some one or more of his descendants have been afflicted in the same way; and there are now living in N—y and B—y several lineal descendants of Henry Sewell, partially or occasionally deranged. And what is a little remarkable, they are affected in very much the same manner as he was. They are eccentric, odd, peculiar, crazy, but always harmless.

“An anecdote of one of them will serve as a sample of the species of derangement to which they are subject. One of them was impressed with the idea that he was appointed to be damned eternally, and thought that the sooner he entered upon his doom the better. He therefore wished very much to commit suicide, yet entertaining the idea that it was wicked for him to do so, devised the following method of making away with himself, without incurring guilt. He thought if he should swim out into the water just as far as he could swim, and then turn round and be drowned while trying to save himself, without being able to do so, he should not be guilty, because he would be trying his best to save himself. He tried this plan, but, fortunately, his strength held out longer than he expected, and brought him back to shore.

“Sometimes he and his fellow-sufferers would shut themselves up for months, utterly refusing to see any one, and pleading as an excuse that they were unworthy to do so. The derangement seemed to be produced by small Hope and Self Esteem, and prodigious Conscientiousness and Cautiousness. They were all exceedingly pious. Indeed their derangement seemed to be religious melancholy, induced by a morbid condition of the moral organs.

“The ancestors of another family first settled in Newbury, many of whose descendants have been, and still are, distinguished for talents—have strong minds in strong bodies—but who have, for many generations, been affected with nervous irritability. At one time they are elated; at another time they are depressed in the extreme, by what they have suffered through life. I could narrate a dozen instances which have occurred in nearly as many branches of this family, which would corroborate the descent of this physical peculiarity, from generation to generation. For instance, the maiden name of my grandmother was Sarah Bartlett—a woman of strong mind, great firmness, and self-possession when obliged to act, and yet one of the most nervous persons imaginable. She would sit by the hour together, and wring her hands enough almost to wring them off, plait her apron into narrow plaits, and then spread it out again, and repeat this process for the hundredth time. She would imagine for a long time together, that she was unfit for company, because she did not know enough, and should disgrace herself and family; but when obliged to appear in company, no one could appear to better advantage, or do herself more credit. On one occasion, when company had been invited, she could not be persuaded to join them, on account of these gloomy unworthy feelings, till some one told her that she did not know enough to appear respectably, when she arose with great dignity and majesty, replying “It’s false,” and walked in and became the master-spirit of the occasion.

She has a large number of descendants, and out of the whole I do not know of one who does not inherit, in a great or less degree, this same nervous temperament, except some of them by the name of Coffin. The peculiarities of my own immediate relations by the name of Coffin (reference is here made to the same nervous excitability), in that respect, on my father’s side are clearly traced to my grandmother Bartlett.

The nervous affection mentioned by Mr. C. is evidently a lower species of derangement, as indeed are all nervous affections, hysterics, spleen, hypochondriasis, and the like, all being caused, in common with downright madness, by the morbid excitability or a diseased condition of the brain, only in a lower degree than complete insanity.

A devotedly pious and most excellent student of Amherst College, whose surname was the same with those mentioned by Mr. C., and doubtless a descendant, died in 1829, evidently of extreme religious melancholy.

A Coffin was known to the author in L., as being exceedingly gloomy and fidgety, excessively sensitive, and greatly alarmed at trifles. A molehill seemed to him a mountain, and a wrinkle a great misfortune. His brother is deranged.

Judge D., of Groton, ex-speaker of the Massachusetts Senate, and an eminently talented man, though not actually crazy, was so eccentric and so beside himself as often to advertise a neighbour’s farm as for sale, or to propound persons for church membership who had not applied for admission, and when these aberrations were pointed out to him, was accustomed to attribute them to the “Kendrick blood in his veins”—his ancestors by that name having been deranged. One of his daughters is similarly eccentric, but endowed with superior natural capabilities.

“I have attempted to discover whether madness ever passes over one or more generations, and have heard of but two instances of it. One of them occurred in a family in the island of Barbadoes, in which four children, descended from parents of habitually sound minds, became deranged. Perhaps in these cases the diseases had existed in their remote ancestors.”—Rush, “On the Mind,” p. 58.

#### PROMISCUOUS CASES OF HEREDITARY INSANITY.

In Burford, Canada West, in December, 1840, a clerical applicant for professional examination, being described as habitually melancholy, confessed the fact, and added, that every one of his name and family, as far as he knew them, were similarly afflicted, and melancholy on religious subjects. The mother of a family of uncommonly intelligent children, in S—, Rhode Island, consulted the author professionally, to ascertain whether any of them were predisposed to insanity. Their developments confirmed her fears; their father died insane. An uncle was then confined in jail, because his insanity rendered him dangerous at large, and an extremely enthusiastic aunt has hobby after hobby, though generally of a moral and intellectual character.

A professional subject near Utica, who has a superior head, excepting small Hope and excessive Cautiousness, is occasionally “beside himself,” and has deranged relations.

Two twin brothers, who reside in a town near Boston, married sisters, lived happily, owned and shared everything in common, were noted for their integrity, made it a fixed rule to “owe no man anything,” and possessed all the comforts of life in abundance. At length, one of them became crazy, accused himself of being dishonest, of having imposed on his neighbours, by pretending to be honest when he was not, and imagined himself about to be detected and exposed, and too deeply in debt ever to pay, though he did not owe five dollars in all, and foreboded poverty and want to himself and family, though they owned a large farm and dairy, did a flourishing business, and had their thousands in cash.

The same brother became so mortified and grieved on account of his brother's derangement, that he, too, went insane. Both insisted on being perpetually together, and by talking continually, and mourning piteously over their imaginary misfortunes, greatly aggravated their malady. One of them had been previously deranged on the same points, and a cousin had been in the insane hospital at Worcester. Both parents were sane and healthy, but a grandfather was deranged on a kindred apprehension of poverty.

One member of a wealthy, influential, refined, talented, and highly moral family, named W—, in P—, became more and more abstemious till, with the utmost persuasion, he could not be induced to take more than a cracker and a tumbler of milk per day, because he considered it wicked to eat more. Though his physician, by standing over him and insisting, could get sufficient food down him to make him gain five or six pounds per week, yet he ultimately died of pure starvation, caused by derangement. He had a splendid head, excepting a deficiency of Hope and Amative-ness, and a predominance of Cautiousness and Conscientiousness. His derangement was aggravated by severe and long-continued mental application. His mother was an exceedingly nervous and also eccentric woman and so were all his maternal aunts. Her parents and all their children escaped; but one of her grandparents—the young man's great grandparent—was deranged, the disease having passed over one generation.

Mrs. C—, a neighbour of the author, while young, was frequently much deranged, and one of her sons was similarly affected, and all his children intelligent. This deranged son married a wife who became deranged on religion, and whose brother has long been religiously crazy. This crazy pair, before their derangement, had a most lovely and amiable daughter, as is often the case; extra talents and goodness being frequent concomitants of mental disease.

SALLY JACK, a deaf mute, aged sixteen years, was advertised as having left home twice in a deranged state of mind. Her mother was insane several years, and three of this mother's children are deaf mutes. A grandmother has been deranged many years on religious subjects and her granddaughter partially so on the same subject.

A woman in New Hampshire was subject for many years to religious insanity. She feared she had sinned away the day of grace and was irrevocably doomed to eternal perdition. One of her daughters was deranged on the same subject. A son was deranged, and another son was crazy on perpetual motion.

A tailoress at Barnstable, Massachusetts, became deranged on religion twice, from extra application to her trade. Her pastor, Rev. Chester Field, of Lowell, Massachusetts, heard it remarked, that derangement ran in her family.

Mrs. HEAD, formerly of Boston, died crazy. One of her sons has been in the Massachusetts lunatic asylum some twenty years, in winter, but is rational in summer. Loss of property first occasioned this lunacy. One of his sisters has been crazy many years, and a daughter has been distracted by turns, for a long time. Her head, at the crown—Self Esteem and Approbation—is so tender, that pressure there gives her great pain, and sets her crazy. She is a most estimable and interesting woman, and just before being attacked, suffers everything from feelings of unworthiness and apprehensions of being laughed at.

Three sisters and a brother, formerly residents of Claremont, and Unity, New Haven, have each been deranged and had deranged children and grandchildren. One of the latter is so raving mad that chains and strait jackets have often been used to prevent his doing damage. This whole family is uncommonly noble and intellectual.

Mr. F—, of Andover, Massachusetts, a man of superior intellect and great business capacities, after having amassed great wealth, became dull, stupid, unable to comprehend, and finally deranged, and was sent to the Charlestown lunatic asylum, where he died. One of his sons, a youth of uncommon natural abilities, prosecuted his studies night and day, with astonishing success, till insanity supervened, consequent on excessive cerebral action. He has been many years in the lunatic asylum at Worcester, where, in imagination, he is transacting an immense business, writing to foreign merchants, making up price-current lists for the papers, and the like. Two of his sisters have been so far deranged as to have been sent to the Charlestown lunatic asylum, yet have since recovered.

The Bass family, already mentioned as longlived, are subject to derangement. Moses Bass, one of the early settlers of Vermont, and his son, have been so. A nephew has been crazy for twenty years; and J— Bass is deranged regularly every five years. One of the females of this family would stand on the top of chairs when deranged; and another married a man named M—, several of whose children and grandchildren are deranged.

To SAMUEL FLINT, of Vermont, I said, while making a professional examination, "Take heed, or you will be crazy." He had previously been partially so, and his sister had been deranged, and confined six years in the insane asylum at Brattleboro, Vermont. A brother had been two years in an insane hospital, and is not right yet. General Flint's great-grandmother Walker was crazy.

A son of Rev. Dr. Axtell, of Geneva, was recently advertised in a newspaper in the neighbourhood, as having left the New York Episcopal seminary, partially deranged. The advertisement added, that "his mother died in Hartford insane hospital.

Three of a Carter family, in Vermont, have died deranged, and the only survivor is often out of her head, feeling unworthy, fancying herself in the way, and despised.

A lady who had been three years in the insane department of the Pennsylvania hospital, died the week before last. A younger sister, who had for some time attended the picture-room attached to the hospital in Spruce Street, after returning from the funeral, was so completely overwhelmed with grief, that her reason was dethroned in about forty-eight hours, and she took the place of her deceased sister in the insane ward. Yesterday morning she expired. She has a widowed mother, and an only sister of fragile constitution, to both of whom it is feared this heartrending blow will be fatal.—*Philadelphia North American*.

#### GEORGE III AND QUEEN VICTORIA.

We do not endorse the following by copying it, but let it stand on its own evidence; yet those who have been in the company of the Queen, say she leaves her seat and company every few minutes, when out of her consort's sight, to look after him. This has given rise to the impression that she is jealous, but her case is, perhaps, analogous to the case of Mrs. H. B—. The quotation is as follows:—

"Queen Victoria.—Letters received in Buffalo from a gentleman in England, according to the *Commercial Advertiser* of that city, state distinctly, what before has been darkly hinted at, that the insanity which so long afflicted George III., is likely to prove hereditary in his granddaughter, Queen Victoria. The symptoms, it is said, are already apparent, producing as yet but little more than what the French term *l'été montée*, but giving rise to painful apprehensions of the result.

“The journeys of the Queen to Scotland, France, and Belgium, and her frequent short tours in various counties of England, have been made, it is further said, in the hope that a change of scene, and filling the mind with new thoughts, might break the distempered chain, and, if possible, avert the threatened danger. This may be nothing but gossip, but when, as in this case, there is the hereditary taint of insanity in the blood, there is always reason for apprehension.

Mr. H—, of W—, Vermont, has been deranged. His father rendered himself crazy by overdoing. Three of his father's sisters were deranged, and three of their descendants.

Mr. R—, and his father, two paternal uncles, and his father's mother, were all deranged. All were also subject to a trembling of the hands.

The murderer Spencer, who, with such premeditation destroyed his young wife at Jersey City, is a nephew of the Hon. Joshua Spencer. His father was a clergyman, but has now been for several years an inmate of the asylum for the insane at Hartford. The murderer has been a politician and stump orator, an office seeker, a schoolmaster, a mesmeric lecturer, and a money borrower, but not a money payer.

I. H— has a brother who has been an inmate of a lunatic asylum, and he himself, apprehensive of a similar fate, has already selected a room in the same institution.

Mrs. M—, of Long Island, became crazy about property, because her farm was run through by a turnpike. Her son became crazy and shot himself, and her daughter, also insane about property, neglected her household affairs, would rake and scrape everything she possibly could for the New York market, and then go in person and sell it.

Edward Oxford's grandfather had been insane, and his father always subject to destructive and suicidal mania, and his mother affected by nervous delusions. Before his birth, she frequently received from her husband blows which rendered her insensible, and on one occasion was greatly terrified by his presenting a loaded gun at her person. When Edward Oxford, the prisoner, was at large, he would beat the children with stinging nettles on their arms till they were quite blistered, he laughing and crying violently at the same time. He would throw out of the window or break whatever came in his way.—Sampson, “On Criminal Jurisprudence.”

While making professional examinations in Danvers, Massachusetts, in 1841, a mother brought in her precocious son, expressing great anxiety lest he should become deranged, her reasons for which were, that his father died of derangement, that his paternal grandmother died in the Charleston lunatic asylum, and that several of his father's brothers and sisters had been more or less deranged.

#### REPORT OF LUNATIC ASYLUMS.

On this point, the New York lunatic asylum, in 1846, reports as follows :—

“That a predisposition to insanity is very often transmitted, is a fact well established. Thus, of 844 patients who have been in the asylum, viz., 431 men and 413 women, 224 were known to have insane relatives. That many of the others were thus predisposed, we do not doubt, but we were not able to learn anything respecting their relatives. 104 were known to have insane parents, viz., 58 men and 46 women.

“But a predisposition to insanity is also transmitted from parents, who, though not actually insane, are remarkable for violent and ungovernable temper, eccentricity, wanderings of the imagination or weakness of mind. Mothers, in whom the nervous system predominates, who are prone to hysteria, and who have suffered much from affections of the nervous system, are very apt to transmit a tendency to similar diseases to their offspring, and sometimes to insanity; especially if they have, during pregnancy, experienced violent emotions, such as terror and extreme anxiety of mind.”

In the sixth annual report of the trustees of the Massachusetts State lunatic asylum, Horace Mann, chairman, remarks on this point as follows:—

“Nearly one-third part of the cases (say the trustees), which have been in the hospital from the beginning, are cases either proximately or remotely of HEREDITARY INSANITY—that is, cases where some near ancestor of the insane subject was insane, and has transmitted the disease to descendants, or rather, has communicated to the system of the descendants, a predisposition to contract that disease.”

Though insanity is thus hereditary, all the descendants of the deranged do not inherit this malady. Those who “take after” other ancestors than those deranged, are seldom subject to it, for reasons already given. And even those who are constitutionally predisposed to derangement can escape, by employing those preventatives prescribed in “Physiology, Animal and Mental.”

## CHAPTER III.

## MENTAL FACULTIES AND CHARACTERISTICS HEREDITARY.

Every fact that proves man's physical qualities to be hereditary, proves his mental qualities to be hereditary. The mental and the physical qualities are mutually dependent on each other, and are mutually influenced by each other. The facts therefore which prove the transmissibility of the one, prove the transmissibility of the other.

Again, character corresponds to shape. Given forms of head and body always accompany certain instincts and mental predilections.

Besides, can we not predicate character from shape? Are not idiocy and superior talents, sincerity and cunning, goodness and selfishness, nobleness and meanness and most other mental characteristics indicated in the form, features, and physiognomical expressions of their respective possessors?

That certain forms of the HEAD accompany and indicate corresponding powers and peculiarities of the mind constitutes, and is established by, the science of Purenology. The facts therefore which prove the transmission of shape prove the transmission of mind.

Every fact adduced to prove that insanity is hereditary, proves that mind generally is hereditary.

Moreover, these diversities of character and talents in men must have some cause. Education cannot be the cause of mental peculiarities because they appear prior to education. Was Benjamin West taught to paint? Was he not rather whipped for painting and obliged to steal away into the garret to follow his intense and natural inclination? Did education render Patrick Henry eloquent? As well argue that ducks love water and hens avoid it because taught to do so. Education can only DEVELOPE AND DIRECT what is born in us. Dr. Nott says, "Give me one hundred boys taken promiscuously and I will make them all brave." Granted, because all have more or less Combativeness by nature, which cultivation can increase; but how much more easily can some of them be rendered courageous than others.

The mental peculiarities of the Indian race are transmitted. The Indian is always cunning, revengeful, wild, and free. Nothing can subdue him. You cannot enslave an Indian. You may kill him but not subdue him. This love of liberty is innate, as is also his gratitude for favours and his revenge for wrongs. He is always eloquent, but never forgiving. By nature he loves the chase, but hates to work; observes the stars, and predicts the weather, but dislikes books.

That these characteristics are innate rather than educational, is proved by his phrenology—always peculiar to himself. The developments of the Indian infant—and the author speaks from the personal inspection of hundreds from various tribes—are essentially Indian.

An Indian is an Indian at birth, and by nature.

The African race has a form of head peculiar to itself, as much as the Indian. It is long and narrow, while that of the copper-coloured race is the reverse. It is also high at the crown.

And this form of cranium appertains to coloured infants equally with adults, which shows it to be innate, not educational. The predominant individual organs are Self-Esteem, Approbateness, Cautiousness, Secretiveness, Tune, Language, Individuality, and Philoprogenitiveness, with less Combativeness and Destructiveness. Hence their proverbial politeness, urbanity, excellence as waiters, love of ornament, swelling and swaggering propensities, timidity, eye-service, fondness for children, and consequent excellence as nurses.

Their perceptives are usually strong, Causality less,\* and temperament neither fine nor active.

The mentalities of the Caucasian and Malay races are hereditary. The Malay race are coarse, sluggish, and every way inferior throughout all their generations,

\* This organ, and also the intellectual organs in general, are somewhat larger, comparatively, in African children than in adults; so that their intellectual inferiority is owing, in part, to want of culture. Yet this difference is not sufficient to modify our hereditary argument, but it shows that we owe a great moral duty to this down-trodden race. The native African head is also superior to those born in this country, especially in the south; so that our republican institutions, every way calculated to improve humanity, actually tend to depreciate one important portion of it. The heads of heathen Africa superior to those of Christian and republican America!

while the Caucasians are self-willed, acquisitive, ambitious, inventive, and intellectual. The various mental peculiarities of both are as much hereditary as their colour and form.

### THE JEWISH NATION.

The national likeness of this nation has already been shown to be hereditary. Their mental peculiarities are equally so. And their having kept themselves separate from all Gentile nations, from time immemorial, as well as their possessing more strongly-marked characteristics than any other nation, render this one of the very best fields for hereditary investigation. And our data are the more tangible, because of the great length of time covered by their national history. What, then, were the mental peculiarities of the founder of this race, and what have since been their predominant characteristics?

**ACQUISITIVENESS.**—The first thing recorded of Abraham is, that he took his wife and brother's son, "AND ALL THEIR SUBSTANCE which they had gathered"<sup>1</sup>—thus implying that they had been very industrious in accumulating "substance," and were unwilling to leave anything behind them, though going so long a journey—from Egypt to Canaan. The next thing said of him is, that "he was very rich in cattle, in silver, and in gold."<sup>2</sup> "And Lot, also, who went with Abraham, had flocks, and herds, and tents. And the land was not able to bear them, that they might dwell together, for their substance was exceeding great, so that they could not dwell together."<sup>3</sup> Again we read, "And the Lord hath blessed my master greatly, and he is become great; and he hath given him flocks, and herds, and silver, and gold, and men-servants and maid-servants, and camels, and asses. And the servant brought forth jewels of silver, and jewels of gold and raiment."<sup>4</sup> Abraham's "arming his trained servants, born in his own house, three hundred and eighteen," and smiting five kings, in order to restore Lot's goods and family,<sup>5</sup> shows this same all-pervading love of substance.

Isaac also evinced the same love of riches, and the same success in their accumulation. And Isaac "waxed great, and went forward, and grew until he became very great, for he had possession of flocks, and possession of herds, and great store of servants." The blessing pronounced on Jacob, shows that he desired nothing but riches and power for his son. "Therefore God give thee of the dew of heaven, and the fatness of the earth, and plenty of corn and wine." In blessing Esau, he again mentions "the fatness of the earth and dew of heaven;"<sup>6</sup> thus showing how intensely he loved property for himself and his sons. And this shows why he became thus immensely wealthy. The old saying, "The gods help those who help themselves," applies to Abraham, Isaac, Jacob, Joseph, and all this money-loving race. They were thus blessed in their substance, because they loved it with almost all their souls, and therefore put forth vigorous and well-directed efforts to accumulate, and this brought their immense riches into their laps.

Laban, another of this acquisitive family, showed the same grasping love of riches in requiring Jacob to serve seven years for Rachel, and cheating him by giving Leah, and then requiring of him seven years' additional servitude before he could possess the idol of his affections—a hard bargain indeed.

It next became Jacob's turn to play the Jew. He had rendered himself so serviceable to Laban, that Laban bantered Jacob to stay longer, and Jacob shaped the bargain greatly to his own advantage, so that he "increased exceedingly, and had much cattle, and maid-servants, and men-servants, and camels, and asses."<sup>7</sup>

Joseph's Acquisitiveness stored up in vast quantities the surplus corn of Egypt, and then bought up all the gold and silver, all the cattle and effects, all the lands, and even all the persons of the greatest nation on earth, as slaves; by far the grandest speculation ever made.<sup>8</sup> His placing his kinsmen in the fattest of the land of Egypt, is equally in point, as is also the rapid increase of the Israelites in cattle and substance while they remained there.

The manner in which this acquisitive people left Egypt, their taking along with them the whole of their substance, "very much cattle," besides "borrowing" all they could of the Egyptians, especially jewellery, so as even to spoil them,<sup>9</sup> shows that they inherited the acquisitiveness of Abraham, Isaac, and Jacob.

The immense treasures given by David and the elders of Israel to build the temple, namely, "seventeen thousand talents of silver, over eight thousand talents of gold, and one hundred thousand talents of iron," and the immense expenditure lavished on that temple, by far the most magnificent edifice ever erected, as well as

<sup>1</sup> Gen. xii. 5.    <sup>2</sup> Gen. xlii. 2.    <sup>3</sup> Gen. xlii. 5, 6.    <sup>4</sup> Gen. xxiv. 35, 36.    <sup>5</sup> Gen. xiv. 14, 15.    <sup>6</sup> Gen. xxvii. 28—39.    <sup>7</sup> Gen. xxx. 27—43.    <sup>8</sup> Gen. xlvii.    <sup>9</sup> Exodus xii.



its having been furnished with many millions of vessels of pure gold and silver—all these, and many kindred items of Jewish history, show how extraordinary the desire and capacity of the Jews were to acquire and hoard riches, especially gold, silver, precious stones, and cattle. In short, what other nation ever possessed Acquisitiveness to be compared with this accumulating nation?

It lives and rages quite as powerfully in modern Jewry. Shakespeare's description of Shylock, is Jewish character to the very life, both ancient and modern. Who are the richest men of the old world? The Rothschilds. Who is one of the richest men in Philadelphia? Moss. He began life a street-peddler of thread, needles, toys, trinkets, glass, and the like, yet he is now worth many hundred thousands. He is a Jew. Who are the richest men of Baltimore? The Cohens, also Jews. A missionary correspondent, many years ago, wrote, that in passing through the Jewish portion of some foreign city, he was beset, entreated, and finally compelled to purchase of them; and travellers generally attest the same. Look at their pawnbrokers' frauds, their usury, and those innumerable devices to which they resort for extortionary purposes, and say whether they have not inherited Abraham's love of riches, together with Jacob's craft, and Rachel's and Rebekah's deception. And what still further proves that their extraordinary Acquisitiveness has been transmitted from Abraham's father throughout all their generations to the present day is, that they now hoard the same kinds of property laid up by Abraham, Isaac, and Jacob; namely, "gold, silver precious stones, jewellery," so named because a staple article of Jewish traffic, "land, flocks, herds, and garments." Who ever knew Jews deal much in other species of property?

Excessive Secretiveness is another characteristic. Abraham practised deception in denying his wife,\* and she practised it in confirming it, and consenting to be Pharaoh's concubine. Isaac practised a similar deception in regard to Rebekah,† and she practised a similar one on Isaac, in disguising her favourite Jacob, and securing that blessing for him, which Isaac meant for Esau.‡ Jacob, too, told a deliberate falsehood and then repeated it, in the face of Isaac's direct question, "Art thou my very son Esau?"§ Rebekah still farther completed her cunning scheme, by getting Isaac to send Jacob to Laban under pretence of getting a wife, whereas she desired it to shield Jacob from Esau's contemplated fratricide.||

Laban, also, another of this deceitful race, after solemnly pledging Rachel to Jacob, deceived him by bestowing Leah; and Rachel evinced the same cunning both in stealing her father's gods, hiding them under her, and then pretending to be unable to rise. All through life Jacob evinced this deceptive disposition. Nor had he any real ground of complaint when his sons, after having sold THEIR OWN BROTHER a slave to foreigners—another acquisitive manifestation—told a practical falsehood—the worst form of deception—by dipping Joseph's fancy coat in blood, and sending it to their father, saying, "This have we found."¶

Thus much of the "fathers" of this race: what of their descendants? Do Jews even pretend to tell the truth? We have already alluded to their deceptions in trade. They rarely pretend to tell the truth where they think they can gain by falsehood. Probably a more deceitful nation never existed.

The DESTRUCTIVENESS of the Jews has always been conspicuous. Abraham put five kings to the sword. The sons of Jacob would have murdered their own brother in cold blood, but for the intercession of Reuben. Simeon and Levi desperately avenged the indignity offered their sister Dinah. Look at the massacres perpetrated on the inhabitants of the land they pillaged. David led a lawless, plundering life, before he came to the throne, and was a man of war and blood from his youth. Their civil wars, and the massacre of Benjamin, were most horrible. Their internal carnage at the final destruction of Jerusalem is without a parallel for barbarity. Shakespeare's description of Shylock's spirit of revenge is a faithful portrait of modern Jews. Their anger is terrible, and easily kindled, and their organs of Combativeness and Destructiveness are immense. Is not the unwonted energy of these organs from Abraham all along down to the present day hereditary? How else can it be satisfactorily accounted for?

Mechanical ingenuity has been remarkable throughout the history of this people. Scarcely a Jew will be found without extraordinary Constructiveness, in head and character—evidently handed down by inheritance from Abraham to 1854, and to be transmitted as long as this extraordinary nation survives.

The Inhabitiveness of the Jews, ancient and modern, has been equally conspicuous. Abraham bought a family burying-ground in which he buried Sarah, and insisted on

\* Gen. xii. 11, 13, 18, 19. † Gen. xxvi. 7, 9. ‡ Gen. xxvii. 15, 16, 17. § Gen. xxvii. 22, 24; Gen. xxix. 22, 26; Gen. xxvi. 35. ¶ Gen. xxvii. 42, 46. ¶¶ Gen. xxxvii. 31, 32, 33.

being buried there himself. Isaac directed his own burial in the same plot, and Rebekah and Leah were also buried there. Jacob made Joseph swear to bury his bones in this sepulchre of his father's, and Joseph, in turn, willed and secured the interment of his own body in the same hallowed spot. Nor did four hundred years of foreign residence efface the love of their descendants for Canaan, but the whole nation sighed for the land of their father, and finally undertook and accomplished a FORTY YEARS' JOURNEY and desperate war in order to effect their return. How often does their national history mention "the promised land"? How piteous the lamentations of the Jewish captives for their native land? "By the rivers of Babylon, there we sat down; yea, we wept when we remembered Zion." "How can we sing the songs of Zion in a strange land?" The parcelling out of their lands and rendering them inalienable in their families is also in point. And the value set even now by this outcast nation upon Jerusalem and Canaan is beyond all price; nor have they yet given up their always-contemplated return. Nor have I ever observed the inhabitive organ in any Jew, without finding it very large.

The Veneration and Marvellousness of Jews, next to their Acquisitiveness, has ever been, and still is, their strongest national peculiarity. How few have equalled Abraham in piety. Wherever he pitched his tent, "there he built an altar unto the Lord, and called upon the name of the Lord."

Isaac possessed this same religious fervour. And so did Jacob. The religious zeal of Joseph, of Moses and Aaron, show that they also inherited the same religious predisposition. In short, the scrupulous observance, by this whole nation, of their passover, circumcision, sacrifices, and other religious ordinances, as well as their tenacious adherence to the religion of their fathers, all confirm its hereditary entailment.

The credulity of this whole nation, evidenced by their belief in marvellous stories, is apparent throughout the Bible. A Roman satirist, alluding to some witch story, says, "Tell that to Apella, the Jew; he will swallow it; but we know better." I have found Veneration and Spirituality large in the heads of all the Jews examined. Abraham must have had it immensely developed. It gave him his vision-seeing capability.

The superior Intellectuality of Jews is also unquestionable. It is this, uniting with Acquisitiveness, that gives them their remarkable pecuniary sagacity. Their memories are uncommonly retentive. Some of our best oriental scholars and linguists are Jews. They were also among the first to commit their national history to writing. They generally possess clear heads and strong minds.\*

#### THE CHINESE AND HINDOOS

Have been remarkable for their uniformity or fixedness of character from time immemorial. Modern Chinese and Hindoos are but transcripts of their ancestors. Their principal difference consists in those of different avocations. And since father, son, and son's son, throughout all their generations, follow the same occupations, this uniformity is undoubtedly, to a great extent, the product of hereditary laws.

#### THE FRENCH, SPANISH, DANES, GERMANS, ENGLISH, AND SCOTCH

All have their national form of heads. The FRENCH head is generally excessive at Approbativeness, yet deficient at Self-Estecm, and less high and long than the English.

The SPANISH head is very wide but short, and high in the crown.

The GERMAN head is wide, rather short, remarkably full or rounding, large at Combativeness and Destructiveness, fairly developed at the crown, and at Causality and Music, and very wide and broad at Conscientiousness. Cautiousness is usually very large. I can generally designate Germans by their heads.

The RUSSIAN is more square in formation. The forehead is generally wide; Causality and Comparison are ample, and the propensities all strong.

The DANISH head bears a tolerably close resemblance to the English, though the English, being compounded of the Norman, Dane, Scotch, &c., is less uniform than that of any other nation, as are also their national features, colour of hair, and the like.

\* The question as to the truth of the Bible history does not affect the above argument. Suppose the history of the ancestors of the Jews to be fabulous, the writers of the fable pourtray their own character and the character of their times in their fables. They were what they represent their ancestors to have been. They admired and loved what they record with so much pleasure.—J. B.

The WELSH head always runs far back in the crown, is often long, and usually developed at Veneration. This great development of the coronal region gave their ancestors that love of liberty which made them flee to their mountain fastnesses, rather than submit to tyrants.

The SCOTCH usually have ample foreheads, and are well developed, especially at Causality and Conscientiousness. Hence their love of theological metaphysics, and their sound practical sense.

The IRISH usually have ample Combativeness, and a fervid temperament. Hence their irascibility.

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## IDIOCY AND THE PROPENSITIES HEREDITARY.

### THE EMERSONS, AND OTHER IDIOTS.

In the Wilmington, Delaware, poor-house, in 1839, I saw a mother and her illegitimate daughter, both idiotic. They resembled each other in features, and both had deficient foreheads. Causality was scarcely larger in either than in ourang-outangs.

Mr. Coffin mentions a family, all of whom, for several generations, were stupid, except that one of them married a smart woman, and has tolerably bright children.

It deserves remark, however, in this connection, that some unions produce children inferior to both parents, and others superior to either parent, the reason of which is given in PARENTAGE.

Others causes than hereditary influences often induce idiocy, as will be seen in the author's work on "Maternity," yet this does not prevent hereditary idiocy. Still, here also, as in cases of disease, when the idiocy becomes so extreme that its subject cannot enjoy and promote enjoyment, Nature interdicts his transmitting his unfortunate condition, by rendering him childless.

### AMATIVENESS TRANSMITTED.

Though all possess Amativeness in a greater or less degree, yet some families, generation after generation, are excessively amorous, and other families very phlegmatic. David, not content with scores of wives and concubines, conceived such a passion for Bathsheba, that he plotted and committed murder in order to indulge it; and Solomon's numerous wives and concubines, attest the uncommon energy of this impulse. Indeed the Jews generally, and their kings especially, judging from the Bible account of them, were notorious for their sexual indulgences.

The royal family of England, from time immemorial, have been notoriously licentious; and the recent rapid increase of the family evinces the continuance of its extraordinary amative energy.

Aaron Burr and his uncle Pierpont Edwards were among the most remarkable men on record, for the power of this passion, and the size of its organ. So notorious was Edwards, that in New York, where he flourished above half a century ago, his name is still associated with the most unbridled libertinism and the most wanton profligacy. In this respect he probably had no equal, except his nephew Aaron Burr. Both boasted that they could seduce any woman, however virtuous, to whom they could gain an introduction. Indeed many readers will still remember, that when the letters, expressive of passion, addressed to Burr by women in the first circles of the land, were announced for publication, the proposed publisher was repeatedly threatened with death if he dared to bring them to light. They are said to be more fervid than anything of the kind ever printed. For ages to come will these two names, especially that of Burr, be coupled with seductions the most artful and successful, with sexual indulgences the most gross and unparalleled on record, as well as with the ruin of females the most lovely and unblemished before they encountered these arch seducers. Long may it be before another as foul destroyer of chastity scourges the earth!

That this extraordinary development of the passion was inherited, is evident from their relationship—uncle and nephew—and by the similarity that was observable in the form of the lower and back portions of their heads. Amativeness was enormously developed in both.

In several of the relatives of these notorious sinners, whom the author has known personally, and examined professionally, this organ and its faculty have been excessive, and without doubt, the same is true of other branches of this lecherous family.

The son of a frail woman in New York, at four years old, had this organ enormously developed, and its manifestation was in proportion. The children in our almshouses and houses of refuge usually have enormous Amativeness. They are generally the offspring of licentious parents; I have yet to see the first illegitimate child in whom Amativeness is not excessive.\*

#### A REMARKABLE CASE.

More than a hundred years ago, a man eloped with a woman known to be unusually amorous, when he was WAS NINETY-FIVE YEARS OLD, and had FOUR WIVES then living. One of his descendants of the fifth generation—a public man of great intellectual capabilities—spends many thousands annually on kept mistresses, though near seventy, and has supported an establishment of lewd women, for his own special gratification, most of his life. Every one of his sisters became mothers before they became wives, and in every way evinced extreme sexual passion. His niece became a mother before she was fourteen, by her cousin. All the males of this family are excessively sensual, and most of the females. The descendants of the old stock are exceedingly numerous, and their families large.

#### THE TWIN-BEARING TENDENCY AND HAVING LARGE FAMILIES

Are also propagated. Dr. Kimball, of Sacket's Harbour, after narrating a striking instance of excessive Amativeness in a French woman and her daughter, proceeds as follows:—

"The sister of a man named Boyer, living in B—ville, had twins twice. One of Boyer's sisters married a Mr. Flagg, and died in her first accouchement, being delivered of one living twin before she died, the other remaining unborn. A son of Boyer—and this principle descends in both the male and female line—married a Miss Hughes, who, after having four or five single births, was delivered of three children at one birth. Hughes, a brother of this last Boyer's sister, who, after having three or four single births in as many years, had twins, on account of which Hughes left her, and lived clandestinely with another woman, by whom he soon after had three children at one birth.

Blundell says that a lady, related to one of his pupils, had four children at one birth, and that three of the sisters of this prolific woman had either twins or triplets. Dr. K. also states, that having twins descends into his own family, and mentions some other cases. But facts of this class are too abundant to require specification; for almost or quite all parents who have twins will be found to inherit this predisposition from their parents, one or both, or else to be related to those that have twins.

Some animals always have twins, and certain sheep and their progeny, generation after generation, bear twins. Even some kinds of fruit trees have duplicates on one stem; of which the Washington Belmar plum furnishes an example.

DANIEL ATKIN died at Wexford, Canada West, a few weeks since, aged 120 years. He had, during his life, contracted seven marriages, and had 570 grandchildren and great-grandchildren—370 boys and 200 girls.

Those who belong to large families—especially females—generally have large families themselves, unless the mother becomes feeble; but where both parents are from small families, they usually have few children. So, too, whole families, in all their branches, will frequently be found to have just about the same number of children. Of this the descendants of the Alden family, already mentioned, furnish examples, the following being some of the numbers of the children—13, 12, 11, 10, 9, 15, 7, 7, 7, 9, 8, 8, 9, 19, 2, &c. Several kindred examples are interspersed through Longevity.

The other social faculties are equally hereditary. Some families, as far as they can be traced, evince great affection for one another and unusual love of family, while others care for neither relatives nor friends.

#### COMBATIVENESS AND DESTRUCTIVENESS TRANSMITTED.

WILLIAM HEARN, of Little Creek Hundred, Delaware, murdered his own son by beating out his brains with an axe, in the night, because this destructive son threatened to murder his father and mother, and to burn the house.

\* See an explanation of the cause of this in "Love and Parentage," Sec. II.

## PATTY CANNON AND HER FATHER AND BROTHER.

This notorious woman shed human blood as lavishly as if it had been water. She procured and held in subjection a desperate gang, whose sole business was to perpetrate the robberies and murders she planned, in which she generally took the lead. She frequently perpetrated murders single-handed in order to rob. One of this gang was afterwards executed. While under the gallows he disclosed her atrocity.

Her excessive Amativeness was her decoy-duck with which to allure victims within her reach, and retain them till she could despatch them. She fitted out a kidnapping vessel to Philadelphia, and with negro traitors, who mingled with coloured people of the city, and under various pretences decoyed them on board, she kidnapped and transported, first to her prison castle and thence into slavery, hundreds of free negroes. Those who were decoyed on board, but were too old and infirm to bring much, were unceremoniously drowned. And infants, captured with their mothers, who by their crying endangered her safety, were mercilessly knocked on the head with a loaded whip made for the express purpose. Several infant skeletons were disinterred in her garden after her capture. For years after her crimes were publicly known, this resolute woman and her desperate gang evaded the officers of the law. She was finally captured after a desperate resistance, and committed suicide in prison.

Her Destructiveness, and also Acquisitiveness as well as Amativeness, were enormous.\*

The father of this human fiend, becoming exasperated with a neighbour about some money matters, went into the shop where the man worked, and picking up a suitable piece of timber, struck him on the head and killed him, for which he was executed.

Her brother committed a crime which the law then punished with death, and followed his father to the scaffold, being in every way a very bad man.

Her sister Betsy, who married Bat. Twiford, was one of the most violent tempered, implacable, and revengeful of women, notoriously licentious, and known to be guilty of every crime but murder, and she was suspected of that. Her tongue was the most bitter and sarcastic imaginable. She was unparalleled for foul-mouthed abuse and profanity.

Her Amativeness and Destructiveness, like those of her sister Patty, were extraordinarily developed.

One of the descendants of one of these women was tried in Delaware, about 1840, for some aggravated crime—I think murder.

The mother of these depraved women was large and fleshy, and good-natured, yet accused of manifesting undue Amativeness. This passion she transmitted to her daughters, who inherited their Destructiveness from their father.

## NERO AND HIS ANCESTRY.

What one man, whose crimes history has recorded, ever committed enormities so numerous or aggravated as those perpetrated by this human fiend! What man of wealth or worth did he not doom to death, and his effects to confiscation, even his venerable tutor Seneca, the erudite scholar and profound philosopher, not excepted! Even his own mother, to whom he was indebted for his crown as well as his life, after repeated plots for taking her life had failed, finally died by his hands.

His own wife, too, a most illustrious woman, was banished and murdered, to make way for the notorious harlot Poppea. All Rome was laid in ashes by his command! What was his parentage?

CALIGULA, whose atrocities knew no parallel except in Nero's, was his uncle, and Agrippina, most violent in her hatred and revenge, and who plotted and perpetrated the death of her other children in order to place Nero on the throne, was his mother! His father Cneius Domitius, was one of the worst of men, and his paternal grandfather, Lucius Domitius Ænobarbus, was extravagant, impetuous, proud, revengeful, violent, and cruel. His maternal grandmother, Agrippina, was violent and implacable, and exceedingly ambitious, and her mother Julia—Nero's great-grandmother on his mother's side, from whom he inherited most of his vices—was the daughter of Augustus Cæsar. She was a dissolute, sensual, and abandoned woman.

\* For a more particular account of this extraordinary woman, see the Phrenological Almanac for 1841, or Journal for 1840.

Let it be borne in mind that the Cæsars were rendered what they were, mainly by their excessive propensities, directed by unbridled ambition. Their passions were enhanced by the largest possible indulgence, and incessant civil or foreign wars; and it would seem that all the ambition, along with all the ferocity and sensuality of all the Cæsars, descended to this last heir of all their vices. The truth of the laws of transmission admitted, what could have been expected of the Cæsars but the parents of Nero, and what of these parents but that monster fiend to whom they gave being?

The glutton Vitellius, who expended at the annual rate of £25,000,000 on his table alone, and would soon have eaten up the resources of the entire Roman empire, was one of this Cæsarian family. The engraving of the emperor evinces a general resemblance to Nero, especially in the coarse and sensual form and texture of his physiognomy.

The inhabitants of New South Wales have been parented mainly by criminals, and their general degradation and viciousness is in perfect keeping with our doctrines.

The mother of Byron was most violent-tempered, and his father most sensual and abandoned, and their son inherited the high temper and misanthropy of the former, and the sensuality of the latter.

Archibald and Hector M'Neil, two brothers, who came from Scotland above a hundred years ago, possessed extraordinary physical strength, great personal courage, and an insatiable love of fighting in the ring. They would go any distance to have a fight, or meet any wrestling competitor who might accept their standing and universal challenge, yet found no equals.

Hector's only son was tremendous in both strength and fighting, as were also his sons, many of whom have removed westward.

A hale, hearty, thick-set, strong-muscled, commanding fine looking granddaughter of Archibald M'Neil had two sons, both large, thick-set, strong, noble-looking, and powerful men, weighing some two hundred and twenty pounds, and never sick, who disdained to fight, and minded their own affairs, but who were highly combative, and, when insulted, would knock down their insulter instantly while speaking, and almost unconsciously.

In examining a son of one of these men, I found unusual Destructiveness, Self-Esteem, and Firmness, and described his character accordingly. This lad, when only five years old, on being denied something he wanted, became enraged, and came swelling and frothing with wrath into the house exclaiming, "I will tear this house down, and I can do it;" and suiting the action to the word, he caught up a chair and dashed it to the floor, as though he would smash everything to pieces. His temper, when once roused, was uncontrollable and outrageous.

Both Archibald and Hector were remarkable for their coolness and self-possession in time of danger. So were all their children. So was the matron granddaughter, and both her sons, and the three grandsons mentioned. All the descendants, as far as traced, were always cool and courageous.

One of these combative descendants married a woman who belonged to a mild and sweet-dispositioned family. One of their children inherited the resolution, sternness, and violent disposition of the M'Neils, along with their corresponding phrenological developments, while the other child possessed the mother's amiability and sweetness, and also small Combativeness, Destructiveness, and Hope, together with the melancholy cast of mind.

Frederick the Great inherited his haughty, imperious, harsh, overbearing, and destructive spirit from his father, Frederick William, who was violent tempered, and treated his son with so much severity that he attempted to escape, but was arrested and thrown into prison by his father.

Colonel J. W. Scott's great-grandfather was shot from his horse when on the full gallop, in the bloody battle of Bannockburn, at the age of 110, without ever having known sickness or pain. His son was killed in battle when 60 years old, and his son, father of Colonel J. W. Scott, died at 84. J. W. Scott, though 64, appears as young as men of forty, and says that all his family for two centuries are known to have been deeply imbued with the martial spirit. Is not General Winfield Scott, our present commander-in-chief, descended from this same stock, and does he not inherit the same martial spirit which has raised him to his present military post, from the same Bannockburn hero?

#### EXCESSIVE AND DEFICIENT APPETITE HEREDITARY.

Some of the propensities being thus transmissible, all may be expected to be governed by the same law. The children of all hearty-eating parents will practically confirm this position. Whole families, generation after generation, will be found to

be "good livers"—the men all large eaters, and the women excellent cooks. The latter love good things themselves, and this disposes them to make dishes savoury. Every member of the A. and B. families loves good eating dearly, and though economical, almost to penuriousness, their tables are literally loaded with choice edibles, which their females are first-rate in serving up.

Franklin and his father show that feeble appetite is transmitted. Of his father and himself he remarks on this point as follows:—

"At his table he liked to have, as often as he could, some sensible friend or neighbour to converse with, and always took care to start some ingenious or useful topic for discourse, which might tend to improve the minds of his children. By this means he turned our attention to what was good, just, and prudent, in the conduct of life; and little or no notice was ever taken of what related to the victuals on the table—whether it was well or ill dressed, in or out of season, of good or bad flavour, preferable to this or that other kind of thing; so that I was brought up in such a perfect inattention to those matters, as to be quite indifferent what kind of food was set before me. Indeed, I am so unobservant of it, that to this day I can scarce tell a few hours after dinner of what dishes it consisted. This has been a great convenience to me in travelling, where my companions have been sometimes very unhappy for a want of a suitable gratification of their more delicate, because better instructed, tastes and appetites."

Franklin's walking through the streets of Philadelphia, eating baker's bread, shows that he took after his father in being indifferent to what he ate. This characteristic he ascribed to education, yet it was undoubtedly hereditary.

#### LOVE OF ALCOHOLIC DRINKS.

Though an artificial, acquired taste, yet this often becomes so interwoven with the constitution as to be transmitted. Mrs. Mattock, who once lived in Milltown, near West Chester, Pennsylvania, was so notorious a toper that she kept alcoholic drinks by her bed, and often drank a quart in twenty-four hours. All but one of her eight children are confirmed sots, and this one, a daughter, is said to love drink unduly.

SENECA WARREN, of Chester, whom, by request, the author examined blindfold in public, was pronounced underwitted, and is so regarded. His mother drank to excess many years, and he has been a hard drinker all his life. His brother is nearly idiotic; and every brother and sister, except the eldest, who was probably born before their mother's drinking habits became riveted and extreme—have been confirmed sots, and several have killed themselves in consequence. His wife, a son, and daughter are passably intellectual, but another son is foolish and drunken.

Three brothers, named Downing, who emigrated with William Penn, and took up land on Chester Creek, which still remains in the family, were all remarkably honest, industrious, economical, temperate, and sober, as have been all their descendants throughout all their families, except those of one who was long a state senator, and learned, by being much in public life, to sing songs, crack jokes, and drink wine after dinner, till he felt jovial and merry.

A daughter of his, not known to have loved stimulants, and an excellent woman, had four sons, three of whom were noted and abandoned drunkards, and the fourth was fast following in the same steps, but saw his danger, and took in a reef or two, yet would get tipsy on public days.

One of these four brothers had two sons, one of whom died at twenty-two, an occasional tippler, and the other is a confirmed sot of the lowest grade. The eldest of these four brothers had five children by a superior wife, two of which sons, in spite of the restraining influences of their gifted mother, formed drinking habits, yet were reclaimed by the temperance movement. Thus most of the descendants, as far as known, for five generations, of this wine-loving senator, except one daughter, inherited a love of stimulants, and this love increased as it descended—a point in reserve for future presentation.

ISAAC HUTTON, of New Garden, was an inveterate drinker, and had an illegitimate son, one of whose daughters, though unmarried, becomes a mother nearly every year, and is supposed to drink. Another keeps a tippling house, and is thought to treat herself quite often, and has an illegitimate child—the drinking and amative propensities both hereditary.

The PYLE family generally drink. An amiable, excellent, and temperate daughter married a temperate man, who kept no spirits in his house, and although he restrained his children from everything pointing towards intemperance, yet one of them killed himself by hard drinking, another is a common drunkard, and a third an occasional tippler.

E. F., whose name, if given, would be recognised throughout the religious world, though endowed with great Causality and Conscientiousness, inherited from his father a love of alcoholic drinks, to which he yielded till about twenty, when he determined on total abstinence, and thus saved himself from ruin, yet the *APPETITE* for stimulants still remains.

In short, few of the children of drinking parents, who resemble those parents, can be found, who do not experience a hankering after strong drink, and a great majority of our inveterate drinkers will be found to have had parents who drank, though they may never have been dead drunk. Indeed, the drinking habits formed in the revolutionary and subsequent wars, and propagated, are the undoubted cause of the excessive drunkenness of our country, now in part stayed by Washingtonianism. And since this propensity, like all others *INCREASES* as it descends, parents need not be sots in order to render their children inveterate drunkards. To love strong drink, and occasionally indulge children, is enough to entail on offspring a still greater love of it, and render them drunkards, though their parents never drank so as to evince intoxication.

Fond parent, what temperance motive stronger than this can possibly be urged? Supposing that a little did you no damage, it is almost certain to implant an appetite in your children which they may not be able to check. Are you willing to run the *RISK*—to place them in such jeopardy? If “Woe to him who putteth his cup to his neighbour’s lips,” what is it to him who putteth it to his *CHILDREN’S* lips; who tempts them in the most effectual manner *ALL THEIR LIVES*, to form habits of intemperance? What temptations equal those which spring from entailed appetites? It is far more easy to reform twenty drunkards who became so from habit and associations, than one *innate* drinker. The former, once reclaimed, are likely to remain temperate, because temperate habits will soon cure intemperate habits. Not so with those whose thirst is hereditary. They reform, and intend and struggle to remain true to their solemn pledge; but their hankering is *CONSTITUTIONAL*, and almost unquenchable. That parent who thus entails this hankering on his children, deserves the curse of every descendant. Away, then, with all intoxicating drinks. Even supposing them good for yourself—which they are not—forego personal good, rather than ruin your children and your children’s children. For your own sake, for their sakes, practise *TOTAL ABSTINENCE THROUGH LIFE*.

Unmarried women, this subject makes a powerful appeal to you. In marrying even moderate drinkers, you incur imminent danger, not only of having your affections blighted, but of seeing your sons, who should prove your pride and support, become a torment and disgrace to you.

Nor is the danger of the children becoming drunkards, bad as it is, by any means all. Intemperance in parents impairs the grain or texture of the brain, and thereby deteriorates the general tone of character and cast of mind of their children. By rendering parents more gross and animal in action and feeling, it similarly depreciates their offspring. Teachers have uniformly answered my question, “Do you observe any difference in the intellectuals and morals of the children of intemperate parents as compared with those of the temperate?” that the former are worse to manage, less studious, and more difficult to teach than the latter. And this result harmonises perfectly with that great physiological law, that all alcoholics stimulate the selfish propensities more relatively, than the moral sentiments and intellect. By thus sensualising parents, it of course deteriorates offspring, and the more so because apt to be forgotten while one is intoxicated.

True, if the other parent possesses a high order of organisation, this result is sometimes neutralised, and the children are well endowed, and hence their occasional parent smartness.

#### ACQUISITIVENESS TRANSMITTED.

JOHN JACOB ASTOR is by far the richest man on this side the Atlantic, and one of the very wealthiest in the world—his possessions amount to 25,000,000 dollars. His son, William B., is worth 5,000,000 dollars, and his elder brother died worth 2,500,000 dollars—then an immense fortune. And yet all are penurious. John J. Astor is said to have sent to the store for a paper of tacks, and returned them because they were two cents higher than the usual price. He lives in perpetual fear of coming to poverty. When Edward Livingston was minister of France, Mr. Astor was at Paris, and complaining that his son, whom he directed to buy a given amount of stock, had not fulfilled instructions, and therefore had made only 40,000 dollars by a certain operation, whereas he might have made 100,000, he told Judge Livingston he must hurry home, or his son would ruin him—



WILLIAM B. ASTOR gave a five years' lease on a house to a friend of the author before a fall of rents in 1839. My friend requested a diminution of the rent, and argued the case with Mr. Astor, but to no effect, till he urged that this high rent would certainly break him, and then the property would not lease for as much as my friend would give. This argument prevailed. His wife once bought a one-hundred dollar shawl. Mr. Astor, happening to go to the door when the clerk brought it with the bill, sent both back, saying that he "would not indulge his wife in such extravagance as that."

An inventory of the effects of his sister discovered 30,000 dollars in specie, stowed away among her clothes; another sister lives and rides in the plainest style, to SAVE EXPENSE.

In general, very rich men have small souls, else they would not be sufficiently saving to accumulate; while those who are liberal are kept down in the world by their generosity. How hard it is, generally, to get dues from the wealthy, because they hold so tightly to their money! This is one great cause of their riches.

The HARPERS all show both financial and economical talents, in a high degree, having amassed 500,000 dollars.

CALEB B——'s family, of Brandywine, have long been the richest men in Chester county, Pennsylvania, and are real misers. One of them refused to marry because of the expense attendant on having a family; and when old, lived mostly on gingerbread, which he kept locked up in a cupboard, the key of which he carried in his pocket, and would crawl out of his bed, after he became extremely feeble, to help himself, rather than trust the key with another, lest they should eat a mouthful of his food.

His brother married, but kept his family on the most economical fare; and when old, though worth several hundred thousand dollars, picked up and pocketed nails and pieces of iron, found about unfinished buildings.

The cattle of his son strayed into a neighbour's yard, some three miles off—perhaps because not fed at home—who, not knowing whose they were, weighed out his bay, and charged its usual price, which this acquisitive son of this acquisitive sire refused to pay. Many similar stories of his meanness are told about him; and the entire family, for three generations, have been miserly. One of their heads which I examined, was short, very broad at Acquisitiveness, but small at Self-Esteem, just the organisation which usually accompanies penuriousness. They are all close.

The W——s, of West Fallowfield, Pennsylvania, in all their numerous branches, are close-fisted and tight in their dealings.

The M—— families, of E—— R——, Vermont, are exceedingly acquisitive, very penurious, and all rich—so much so as to give rise to the neighbourhood proverb, "Any one who has but one drop of M—— blood in their veins is sure to be rich." To keep their money in their families, they have generally married cousins.

Yet the descendants of the rich not unfrequently squander lavishly the earnings of their acquisitive ancestors. This is accounted for in two ways without invalidating this hereditary law. 1. The children of very acquisitive parents generally love money, yet less than their parents, because having had all their wants supplied, they do not know how to spend it, and not having been obliged to earn money, Acquisitiveness has decreased from inaction. 2. The second generation generally marry those more extravagant than saving, and this leaves Acquisitiveness weak by inheritance in their children. This provision in Nature against the accumulation of property in the hands of the few, is imitably beautiful, and confers more good on society than is imagined.

#### CAUTIOUSNESS ENTAILED.

The author, in his professional practice, has seen many instances in which excessive timidity, irresolution, procrastination, and cowardice pervade whole families—a parent, and all the children, and grandchildren, and great-grandchildren, who take after that parent. Especially where the mother is full of fear, and her daughters apt to resemble her in this respect. Such mothers should bear in mind, that in their children Cautiousness is almost certain to be too large by entailment, and should therefore not be increased by perpetual warnings. All possible pains should be taken to diminish it by inaction.

#### APPROBATIVENESS HEREDITARY.

The love of praise is likewise transmitted. Excessive vanity and desire to swell and make a great bluster, also runs in families. Thus GOWARD, who, in his advertisements, claims to be the greatest teacher in writing, bookkeeping, geography, history, languages, painting, music, vocal and all manner of instruments, dancing, and the

whole round of the sciences and accomplishments, has immense Approbativeness, which, unrestrained, boasts and swells; and several of his cousins whom I have examined, possess, like him, an enormous development of this organ—probably inherited from a common ancestor.

#### THE HAUGHTY, OVERBEARING SPIRIT

Often pervades whole families—parents, children, and grandchildren, as far as they can be traced. Everything which such families do or possess is far better than anything anybody else can do or have. How many instances of hereditary aristocracy exist, founded solely in family pride, not merit. What town is without them? What city is not thronged with them?

The author once examined an Edwards, in public, whose Self-Esteem and Combativeness were immense, and who was excessively contrary, overbearing, and unpopular, and refused to associate with others. In these respects he resembled his grandfather and father, whom all disliked for their selfishness and hauteur. All his blood relations, though generally poor, were tainted with the same bombastic, aristocratic feelings.

#### LOVE OF LIBERTY AND AMBITION HEREDITARY.

That President Harrison was a true lover of liberty and and the public weal friends and foes equally concede. His father was a signer of the immortal "Declaration of Independence," and was descended from that Harrison who helped to arraign and condemn the tyrant Charles I.

Entire families, though rich, will be found to be truly democratic in all their branches; of which the Livingstons, at least the old branch, furnish an example worthy of praise.

Some families love public life, and are aspiring, and calculated to lead; of which Senator Yulee, late Levy, is an instance.

"His grandfather was the First Councillor, or Grand Vizier, of the Emperor of Morocco of those days. The son of the emperor engaged in a conspiracy against his father's life and authority, which it became the duty of the ancestor of Mr. Yulee to check and punish; and in so doing he was compelled to throw the prince into prison. Shortly afterwards, and while the latter was in confinement, the old emperor died; and his son went from the prison to the throne. His first acts were to cast his father's friend and adviser into the same dungeon, where he died shortly afterwards, and to order the confiscation of his estate. As the sovereign's will was the only law known in Morocco, in such cases the family, to save their lives, were forced to fly somewhere beyond the authority of the new emperor; and chance favoured them with an escape to Gibraltar. Soon afterwards, the father of Senator Yulee, then a young man, went to Cuba, and, changing his name to Levy, entered into commercial business. Mr. Yulee was born in that island, and came with his parents to this country about the time of the cession of Florida to the United States, as the world knows. He is, perhaps, the youngest man in the United States Senate, of which he is a most useful and promising member."—*Richmond Enquirer*.

JOHN ADAMS, ex-president, his son, John Quincy Adams, and his son's son, Samuel Adams, now mayor of Boston, furnish another instance of the transmission of desire to be in public life. J. Q. Adams has very large Approbativeness, and the physiognomy and natural language of his father evince a great development of the characteristic it begets.

The royal and noble families of the old world show the transmission of this arbitrary instinct, which is derived mainly from the organs under discussion in this section.

Firmness was large in the head of a criminal whom I examined at Newcastle, Delaware, while under sentence of death for a murder. He was honest and very talented, but most inveterate in his hatred, and obstinate in all his purposes.

His father was strictly honest, much respected, kind, and wealthy, but one of the most stubborn men in the world; and his father—the criminal's grandfather, an African chief—was equally noted for his proud bearing and mulishness. Pride and obstinacy, accompanied with a high sense of honour and justice, and fine minds, characterised the whole family. The criminal, after having been thoroughly provoked, threatened the life of his enemy, and was bound over to keep the peace for one year, during which time he restrained his murderous purpose, because he would not bring his security into difficulty. But the very day after the year expired, he committed the deed. What better evidence of Firmness than holding to so dire a purpose one year?

Of the transmission of Firmness in the Pikes, Joshua Coffin writes as follows :—

“ Gen. Zebulon Pike, a native of New Jersey, a brave officer in the last war with Great Britain, who was killed at the battle of Queenston, was a descendant of Captain Pike, who emigrated to New Jersey, from Newbury, Massachusetts, about 1666. This Captain Pike was brave and intelligent, and noted for his skill and enterprise in the Indian wars. From John Pike, who emigrated to New Jersey, down to their descendants at the present time, nearly all of them have been distinguished for clearness of intellect, firmness of purpose, self-possession, and indomitable courage. Nicholas Pike, the old schoolmaster and mathematician ; Alfred Pike, also a schoolmaster and mathematician—now in Newburyport—a resolute, forcible, bold, energetic man ; Albert Pike, Esq., formerly of Newburyport, but now of Little Rock, Arkansas—whose ‘Hymns of Callimachus’ have been published in ‘Blackwood’s Magazine’ with commendation, and which are really splendid specimens of poetry—these, and many others, are descendants of John Pike. So marked is the firmness of this family, that the people of Newbury call firmness ‘Pikeism.’ ”

## THE MORAL FACULTIES TRANSMITTED.

### RELIGIOUS FEELING HEREDITARY.

The religious biographies of men generally begin with stating the religious zeal of one or both of their parents.

The case of Dr. Doddridge deserves especial remark. His mother was daughter of Rev. John Bourman, of Prague, Bohemia, who, obliged, in consequence of religious persecution, to renounce Protestantism or emigrate, preferred the latter, painful as was the consequent separation from friends and loss of most of his estate, just as he was beginning to enjoy both. He was a godly preacher, and left an only daughter, the mother of Dr. D., who writes thus :—

“ I was brought up in the early knowledge of religion by my pious parents, who were, in their character, very worthy of their birth and education. I well remember that my mother taught me the history of the Old and New Testament before I could read, by the assistance of some blue Dutch tiles in the chimney-place of the room where we commonly sat ; and the wise and pious reflections she made upon these stories were the means of enforcing such good impressions on my heart as never afterwards wore out.”

As he lost both his parents when only thirteen years old, his moral organs must have been hereditarily large, or they would not have thus imbibed and retained these early religious impressions.

Commodore O. H. Perry, and his ancestry, were eminently religious. Freeman Perry, the commodore’s grandfather, heard of his grandson’s brilliant achievement on his death-bed, and exulted greatly in the victory, but most of all in the thanks given by his courageous descendant to a Supreme Power instead of to his own might, expressed in the few lines of the commodore’s despatch. “ It affected him even to tears, so that he required it to be read to him over and over again, and the words, ‘ It has pleased the Almighty,’ lingered on his lips and blended with his latest prayers for the prosperity of his descendants.”

The fact that his father, C. R. Perry, was a captain, that he was remarkably cool in battle, and especially that he stood in cool but eloquent composure to be shot at in a duel by Heath, without returning the fire, indicates the hereditary descent of the martial spirit, if not of courage.

Mrs. Tappan, already mentioned under the head of longevity, was exceedingly devout, as all her letters abundantly attest, and the author knows one of her grandsons who is so religious as to be almost fanatical, who prayed so loud and earnestly as to be heard all through his end of the college edifice, so as often to be considered a nuisance. His father is also eminently devout, and gives much to benevolent objects, and the moral organs of two of his sisters are very large. Most of her nine children and sixty-two grandchildren—another instance of the entailment of the prolific propensity—have been converted, and are zealous in religion.

Most of the Alden family, also, already alluded to, have been eminent for piety and devotion, and many of the men ministers or deacons.

### SPECIFIC MORAL FACULTIES HEREDITARY.

The Rogers family furnish a remarkable proof and illustration of this hereditary law. History informs us that John Rogers, the first martyr in Mary’s reign, along

with his great religious zeal, declaimed vehemently against the religious abuses of his time, and in consequence was condemned to the stake.

The Marlbro' Hotel, of Boston, the first and for a long time the only respectable religious and temperance house in this country, and the only one I ever knew in which family worship was daily maintained, in which all the boarders were invited to partake, was kept by Mr. Rogers, a tenth lineal descendant of the martyr. He had a strong desire to preach, but was prevented by an affection of the throat. He is a most benevolent and eminently religious man. He now conducts the Delevan Temperance House, Albany, doubtless on the same religious principles.

Nathaniel P. Rogers, former editor of the *Herald of Freedom*, and author of the letters in the *Tribune* signed "The Old Man of the Mountain," one of the most cogent and caustic writers of his day, was from the same stock, and amply endowed with the same evil-rebuking and reformatory spirit with the martyr. John R. French thus writes of him:—

"Mr. Rogers was a son of Dr. John Rogers, of Plymouth, in this State, where he was born June 3, 1794. His father was a highly respectable physician, a man of brilliant intellect and superior education, a graduate of Harvard College of the class of 1777, and a son of the Rev. John Rogers, of Leominster, Massachusetts, a clergyman in his day somewhat celebrated for his talents and independence in religious faith, and rebellion against ecclesiastical domination. Mr. Rogers was able to trace his ancestry back to the Smithfield martyr, through eight or nine generations, by a continuous line of John Rogerses, all, with two exceptions, clergymen. Those who have seen both our deceased friend and a portrait of the martyr, hanging in the halls of the American Antiquarian Society at Worcester, cannot have failed to have noticed a great resemblance in the shape of the face and head, in the eye, complexion, and the general expression of the two men. Mr. Rogers's mother, an intelligent and quite active old lady, still lives, at the advanced age of 86, to mourn the son of her strong affection."

He inherited his MENTALITY, as well as his looks, from the martyr. In Boston the author examined his head in public without knowing him, and found a most powerful temperament, tremendous Comhativeness and Firmness, very large Benevolence, large Destructiveness and Friendship, little Secretiveness, and none too much Cautiousness or Approbateness, with great Sublimity, a powerful intellect, especially large Comparison, and an uneven head, indicative of an uneven character.

The minister whose epitaph follows evinced the same bold, fearless, reformatory, and denunciatory spirit, as well as adherence to RIGHT in spite of consequences, which have always characterised the Rogers family. It was copied from a tombstone in a graveyard in Exeter, New Hampshire.

"Here lie the remains of the Rev. Daniel Rogers, pastor of a church gathered in this place in 1748, who died December 9th, aged 78 years. He had been for many years a tutor in Harvard College; was a pious and faithful minister of Jesus Christ, and a worthy son of the Rev. John Rogers, pastor of the first church in Ipswich, who died December 28th, 1745; who was son of John Rogers of the same place, physician and preacher of God's word, and president of Harvard College, who died July 2nd, 1684, aged 54 years; who was the eldest son of the Rev. Nathaniel Rogers, who came from England in 1636, and settled in Ipswich, as colleague pastor with the Rev. Nathaniel Ward, and died July 12th, 1655, aged 57 years: who was son of the Rev. John Rogers, a famous minister of God's word at Dedham, England, who died October 18th, 1639, aged 67 years; who was grandson of John Rogers, of London, prebendary of St. Paul's, vicar of St. Sepulchre's, and reader of divinity, who was burned at Smithfield, February 14th, 1555—first martyr of Queen Mary's reign."

It thus appears that all his ancestors have been reverends, one possibly excepted.

The Rogerses generally, like their progenitor, have large families.

The Field family, from whom Deacon Phineas Field, formerly of Northfield, Massachusetts, quite extensively known in the "progressive" religious world, and the Rev. Charles Field, formerly settled in Lowell, Massachusetts, an eminently zealous NEW-SCHOOL divine, are descended, are nearly all devotedly pious, and also of the REFORM stamp.

A cousin of Deacon Field was a most godly woman, and though confined to her house seven years, and much of the time to her bed, by lingering consumption, of which she died, was yet the prime mover and centre of all the missionary and benevolent operations of her town, most fervent in prayer, and wrote religious essays superior to most sermons. She had also at least two eminently religious sisters, and many devotedly pious nephews and nieces, and four children endowed with strong religious susceptibilities, which, however, partook decidedly of the REFORMATORY type, and of

which the author's moral productions are examples. Her husband and his brother were deacons, and both exemplary and highly moral men, as are and have been many of their relatives.

Tyndale, the first translator of the Bible into English, was a bold religious reformer, and therefore incurred governmental vengeance; and many of his descendants have been executed for the same progressive characteristic. His lineal descendants, now residing in Philadelphia, are ultraists of the most advanced school; as are also the great majority of this name.

Capt. Miles Standish was largely endowed with the same religious susceptibilities, also of the progressive stamp. He produced a decided change in favour of religious tolerance and liberality in our pilgrim forefathers, which Cotton Mather arrested and turned backwards. But for this reverend blue-stocking, Salem witchcraft would have been prevented by Standish's liberality, and our whole country have presented an entirely new aspect—combining all the excellences of Puritanism, with few, if any, of its deformities. Justice yet remains to be done to this bold moral as well as military chieftain, yet good and truly religious man.

One of his grand-daughters married a Carey, whose descendants are generally excellent people, and eminently religious. I saw a Staudish offspring, I think a great grand-daughter, in New Bedford, Massachusetts, in 1844, whose Benevolence and Conscientiousness were immense, and who entered with her whole soul into the reform movements of the age. She said her relatives generally partook of the same ONWARD stamp.

The father of Dr. Lyman Beecher was a staunch deacon in New Haven, Connecticut, and rather in advance of his time. So was his son Lyman in his prime, and in some respects still is. So are all of Lyman's sons, every one of whom is a reverend, and of the new school to the core; while all his daughters are equally conspicuous for religious zeal of the same ultra stamp.

Wesley and his ancestry. The great great-grandfather of this bold reformer and devout Christian was ejected from the Established Church for non-conformity—that is, he was an ultra. His son, John, Wesley's grandfather, was distinguished both for piety and scholarship, and was also ejected for non-conformity; and four times imprisoned, and denied a Christian burial, for being in advance of his "day and generation." His wife, Miss Fuller, John Wesley's parental grandmother, was a niece of Thomas Fuller, the church historian—a man remarkable for wit and piquancy, as well as for clothing his fine thoughts in beautiful language.

Their youngest son Samuel, the father of the founder of Methodism, supported himself through college, married the daughter of an ejected minister, and a woman of great strength of intellect, conjoined with exalted piety and goodness. John Wesley thus inherited his reform spirit from BOTH his paternal and maternal ancestry, and at the same time his wit, his intellect, and fervent devotion. No wonder that such a reforming parentage should produce so innovating a son.

David Brainard and his relatives, for many generations, have been remarkable not only for their fervent piety but for that peculiar CAST of it—humble, self-condemning, ascetic, and a desire for "the salvation of souls"—which pervades and almost constitutes the diary of David Brainard. Where do we find a greater manifestation of Veneration, Spirituality, Conscientiousness, and Benevolence, or less Hope and Self-Esteem—the organisation which, Phrenology being true, he evidently possessed.

The Rev. Thomas Brainard, of Philadelphia, is descended from the same grandfather with David, and has both the same cast of piety manifested by him, the same tender yearnings for the impenitent, and desire for their conversion, and the same overwhelming sense of guilt and self-abasement, together with like religious ecstasy and melancholy. Most of the revivals in that city began in his church. His temperament is most exquisite, indicated by exceedingly fine and soft skin and hair, and his head large, high, and long on the top, but narrow between the ears. His Benevolence is immense, Spirituality and Conscientiousness rarely equalled, Cautiousness and Veneration very large, but Hope and Self-Esteem very small. He says he is exceedingly tormented with that religious gloom and feeling of unworthiness which afflicted David Brainard, and that he knows few, if any, of the Brainards of East Haddon, Connecticut, who are descendants or relatives of David, who are not both remarkably devout, and also afflicted with the same self-abasing CAST of piety.

A Mr. Brainard, grandson, I think, of David, called on me professionally, in Boston, in 1843, partially deranged on the same point—religious melancholy, and extreme sense of unworthiness and sinfulness—and then a member of the South Boston Lunatic Asylum. He had studied for the ministry, and his entire waking time was engrossed with religious contemplations of this melancholic cast.

Let readers who know Brainards, thus related, observe whether they are not pre-eminently pious, and remarkably endowed with the same Christian penitence and humility manifested by David.

The Edwards family furnish another illustration not only of the descent of strong religious faculties, but also of that special DIRECTION of them found in Jonathan Edwards, his mother, and his grandfather. President Edwards, besides being pre-eminently devout, was also the greatest theologian of the age, and a man of tremendous intellectual power. His work on the "Will" evinces extraordinary reasoning capabilities, and his treatise on the "Affections" breathe a spirit of pure devotion rarely equalled. This UNION of these two qualities constitutes his distinctive characteristic. What was his parentage?

His father, Rev. Timothy Edwards, received at his graduation the collegiate degrees of A.B. in the forenoon, and A.M. in the afternoon—"an uncommon mark of respect paid to his extraordinary proficiency in learning." He taught his college pupils so thoroughly, that the professors never thought it necessary to examine them preparatory to admission. He was a scholar of the first order. From this source his son John inherited both talents and morals.

President Edwards' MOTHER was a Stoddart, daughter of the Rev. Solomon Stoddart, a man of great goodness and superior talents, both which his daughter inherited, for she resembled him. "She was tall, stately, dignified, and commanding in appearance, as well as affable and courteous, and endowed with surpassing vigour of understanding and energy of character. She possessed extraordinary prudence and judgment, a nice sense of propriety, extensive information, a thorough knowledge of the Scriptures and of theology, scrupulous Conscientiousness, elevated piety, and great excellence of character." From two parents thus eminently endowed both with talents and the moral virtues, what children might we expect? Just such as Jonathan Edwards and his sisters were—examples of the union of superior powers, of intellect with great goodness and devout piety.

President Edwards also married a superior woman, and his children have rarely had their equals for goodness and talents united. One of them, who married President Dwight, was probably as gifted a woman as her age produced.

The descendants of Jonathan Edwards are also devoutly pious, and endowed with the same KIND of religious character—theological, the combination of great moral with large intellectual organs—of whom J. J. Edwards, professor in Andover Theological Seminary, and formerly secretary of the Education Society, is one. The cerebral developments of two of his daughters evince the same moral and intellectual organisation.

The author once knew a Mrs. Porter, of Hadley, Massachusetts, a tall, dignified, superior woman, of fine intellect and extraordinary religious fervour and benevolence, whom he understood to be a descendant of J. Edwards.

#### VERY LARGE CONSCIENTIOUSNESS HEREDITARY.

The Cuthberts, who inhabit the eastern shore of Maryland, with the exception of one who took after his mother's relatives, have very large Conscientiousness. I have rarely ever found this organ so uniformly and largely developed. Its faculty is equally conspicuous in character. The father, having occasion to absent himself two days on business of his own from the Maryland Legislature, to which he had been elected, refused to take pay for the absent days included in his cheque, and insisted that the clerk should deduct it. The clerk replied that the universal custom was to pay all the members for the whole time the body was in session, whether they were present or absent—that his cheque had been made out for the full time—that if the two days' salary were deducted it could not go back into the State treasury, and did not belong to the paying teller, and that there was no alternative therefore but to receive the whole, &c. Yet Mr. Cuthbert's large Conscientiousness unconditionally refused to take one cent more than he had earned, and accordingly he left the two days' salary on the bank counter.

He strenuously advocated and voted for whatever measures were right in the legislature, and uncompromisingly opposed whatever he considered wrong, and never gave the least tolerauce to anything unjust, either in public or private. Would that we had more such legislators and public men.

He bought at auction a picco of furniture for two dollars, which he deemed worth five dollars, and he paid its full value, irrespective of his bid. He was noted throughout that part of the State for rigid honesty, so that the confidence reposed in him was unbounded.

Two of his brothers had this organ very large. So had all his children but one. So had all his grandchildren whom I examined, and they were many. And all were noted for their integrity and moral worth.

#### THE DESCENT OF SPIRITUALITY.

In one of my public examinations in Cattawissa, Pennsylvania, I found this organ unusually large in a devotedly pious old German of that place; and in half a score of his children and a score of grand-children I found it also very large. This is the more striking, as this organ is generally so deficient.

Dr. Sharpless, of Downingtown, Pennsylvania, has very small Spirituality, while his wife has it large, and often "dreams out" events beforehand. Of their three children, two resemble their mother in likeness, and possess this organ; the other "takes after" the father, and is deficient in this respect.

In Boston, "the city of notions," Salem, of witchcraft notoriety, and Lowell, the catch-all of that whole region, and some contiguous places this organ averages some three or four times larger than it generally is. Indeed, in no other places have I found it equally developed, as phrenology might previously have predicted.

#### BENEVOLENCE HEREDITARY.

A portrait of Howard, the philanthropist, in Peale's museum, Philadelphia, shows an immense development of Benevolence; and in all his descendants, examined phrenologically by the editor, it has also been found to be very large.

The Fessendens, in Maine, Massachusetts, Vermont, and wherever I have found them, have possessed extraordinary Benevolence both in head and character.

Struck with its unusual development in the heads of a large family of children in Charleston, Massachusetts, I turned to their parents and found it largely developed in them also, though less so—its union in both rendering it still larger in their offspring.

#### WASHINGTON AND HIS ANCESTRY.

George Combe thus describes this father of his country:—

"Washington was one of the greatest men that ever lived. His temperament seems to have been sanguine bilious; his head large, and well adapted to every part, the moral sentiments and intellectual reigning supreme. He had a constancy which no difficulties could shake, and an honesty of purpose and ardour of patriotism which no temptation could overcome. He always regarded his country before himself. He was dignified, courteous, and just; brave, cautious, and politic—quick to perceive, and prompt to judge. Those who say that Washington was not a great man, merely mean that he displayed no one quality in excess."

There is a monument to Washington's ancestors in Garsden Church, near to Malmesbury, Wiltshire. The following is the inscription:—

"To ye memory of Sir Lawrence Washington, Lately Chief Register of ye Chauncery: Of Renowne, Pyety, and Charytie. An Exemplarye and Lovinge Husband, A Tender Father, A Bountiful Master, A Constante Reliever of ye Poore, And To Thoas Of His Parish a Perpetuall Benefactor: Whom it Pleasid God to take into his Peace, From the Furye of The Insuing Warrs. Born May XIV. He Was Heare Interred, May XXIV. Au. Dni, 1643. Ætat. Sux, 64. Here Also Lyeth Dame Anne, 'Is Wife, who Deceased January XIII. ; And Who was buryed XVIth, Anno Dni, 1645."

In the old parish archives, the Washington family are constantly referred to as the benefactors of the parish; and from the very earliest recorded times they seem to have been the lords of the soil at Garsden.

His mother was a superior woman. She was clever, dignified, orderly, resolute, persevering, and pious.

Washington was remarkable for dignity and majesty of mien, for method and management, and for his great goodness and true piety—all which qualities were conspicuous in one or the other line of his ancestry.

The descendants of the Puritans furnish another hereditary fact, on a great scale, of the descent of the moral affections from generation to generation. Mr. Packard's great grandmother, Thayer, when she first landed on Plymouth rock, offered up a devout prayer that all her descendants might be religious, and, to this day, all have been so. Mr. P. was a deacon, as were also two of his sons, and a great majority of his great-grandmother's descendants have been ministers or deacons.

New England was settled by the moral sentiments. The most godly of the old world fled to the new, and erected churches in the wilderness, solely that they might

worship God "under their own vine and fig-tree." This hereditary law being true, what would reasonably be expected of their descendants, but the religious zeal seen wherever New England's sons and daughters have settled? Puritanism, after having framed our laws after its own model, and been enthroned upon our republic, has conferred on clergymen the mighty influence they now wield, and almost worships them. Behold the swarms from every city and hamlet, which through our churches at the ringing of the Sabbath bells; and to possess our counterfeit religious devotion, is a sure passport to success in whatever business depends upon the public patronage; whereas infidelity is considered infamous, and is most detrimental to the pockets of its possessors. The English, notwithstanding their union of Church and State, are not near so devoted to their religion as the Americans. It does not engross their feelings as it does ours. It is more nominal. Nor do religious vagaries find as many or as enthusiastic devotees there as here. Admitted that this is partly caused by education, yet that the forms of the heads of the children of devotedly pious parents differ from those of the irreligious, is proved by all the author's professional examinations. Indeed the moral developments of the children of the several sects differ from each other, and that so essentially, that I can usually tell by examining a child's head to which sect its parents belonged, provided they were both whole-souled sectarians.

Yet Conscientiousness in the American head averages less than even in the English, and in them it is less than in the Swiss, German, and Russian. Watch a Yankee or he will trick you; while Germans, Turks, and Chinese will do as they agree. That a part of this national and sectarian organization is educational, is admitted, yet that it is partly hereditary is perfectly obvious, especially to every phrenologist.

#### CONSTRUCTIVENESS HEREDITARY.

To enumerate all the cases which establish the transmissibility of CONSTRUCTIVENESS, or the mechanical instinct and talent, would be to cite most of the parents and children of New England, and indeed of all natural mechanics. The following cases will be sufficient for our present purpose.

Dr. Philip Synu Physic was the BEST of practical surgeons, one of the main requisites of which is Constructiveness. No other organ is equally essential, and no surgeon can be without it. In all Physic's busts and paintings this organ is extraordinarily developed, so as to form a distinct ridge on each side of the head. See his portrait in the possession of his son, and also his bust.

Two of his sons have this organ very large, and the faculty powerful, and take their greatest pleasure in its exercise.

A deceased daughter of one of them had this order and faculty developed in an extraordinary degree, together with one of the best heads I ever saw.

Dr. P.'s father was remarkably ingenious. This faculty is thus traced FOUR GENERATIONS.

Mr. Taylor, of Lowell, Massachusetts, has invented a gun, for the patent right of which he has been offered 60,000 dollars; a method of cutting the stamps used to print calico by machinery, which has superseded the old one of cutting by hand; and made several valuable improvements in machinery. Constructiveness is very large in him. It is large in his two sons; one of them has already made several valuable inventions. It is large in all his children, but largest in those who most nearly resemble him.

#### THE POETICAL GENIUS INNATE.

Mrs. Davidson, the mother of those stars whose poetical brilliancy, meteor-like, dazzled our nation, possessed a temperament exceedingly nervous and exquisite, and excessively susceptible to excitement, which she imparted to her daughters, and hence their poetic and intellectual precocity. Washington Irving thus describes the similarity between mother and child:—

"The narrative will be found almost as illustrative of the character of the mother as of the child; they were singularly identified in tastes, in feelings, and pursuits; tenderly entwined together by maternal and filial affection, they reflected an inexpressibly touching grace and interest upon each other by this holy relationship, and, to my mind, it would be marrying one of the most beautiful and affecting groups in the history of modern literature, to sunder them.

"This maternal instruction, while it kept her apart from the world, and fostered a singular purity and innocence of thought, contributed greatly to enhance her imaginative powers, for the mother partook largely of the poetical temperament of the child; it was, in fact, one poetical spirit ministering to another."



Goethe and his mother confirm and illustrate this law as seen in the following, from his life by Falk :—

“It has often been remarked, that great and eminent men receive from their mothers, even before they see the light, half the mental disposition and other peculiarities of character by which they are afterwards distinguished. Thus in Goethe’s character we find a most sensitive shrinking from all intense impressions, which by every means, and under every circumstance of his life, he sought to ward off from himself. We find the same peculiarity in his mother, as we shall see from the following curious and characteristic traits. They were related to me by a female friend who was extremely intimate with her at Frankfort :—

“Goethe’s mother, whenever she hired a servant, used to make the following condition : ‘You are not to tell me anything horrible, afflicting, or agitating, whether it happened in my own house, in the town, or in the neighbourhood. I desire, once for all, that I may hear nothing of the kind. If it concerns me I shall know it soon enough ; if it does not concern me, I have nothing whatever to do with it. Even if there should be a fire in the street in which I live, I am to know nothing of it till it is absolutely necessary that I should.’

“Those who were at all acquainted with Goethe’s person and manners will instantly agree with me, that much of his amiable temper, and of his vein of native humour, which nothing in life or death could subdue, flowed in full tide from her veins into his.”

Burns, that poet of nature, also inherited his genius from his mother, of whom his historian thus writes :—

“The mother of Burns was a native of the county of Ayr ; her birth was humble and her personal attractions moderate ; yet in all other respects she was a remarkable woman. She was blessed with singular equanimity of temper ; her religious feelings were deep and constant ; she loved a well-regulated household ; and it was frequently her pleasure to give wings to the weary hours of a chequered life, by chanting old songs and ballads, of which she had a large store. In her looks she resembled her eldest son ; her eyes were bright and intelligent ; her perception of character quick and keen. She lived to a great age, rejoiced in the fame of the poet, and partook of the fruits of his genius.”

His father was endowed with a sound mind, diversified knowledge, and great strength of intellect.

If asked what, in accordance with this hereditary doctrine, have become of the descendants of Milton, Shakspeare, and other poetical geniuses ? the answer is twofold. First, as to raise a good crop requires good soil as well as seed, so to produce poetic or distinguished offspring requires highly endowed mothers as well as fathers. Yet great men often marry most unfortunately. Milton wedded a woman of pleasure and frivolity ; weak, fashionable, vain, and incapable of parenting children of genius, and his children accordingly sank to mediocrity. This is equally true of the wives of many other great men.

Poetical talents also usually accompany a predominance of the mental temperament and cerebral action over the physical strength, which too often enfeebles poets, as in the case of Pope and Cowper, and leaves their children too weak in body to become distinguished. But more of this hereafter.

Ideality, besides conferring an essential ingredient of poetry, also bestows taste and refinement in general, gracefulness and polish of manners included. Several instances of the descent of superior personal carriage or manners, have already incidentally been given.

Perry’s noble, manly, magnificent bearing and mien were inherited from his father, whose “features were regular and striking, his person elegant and commanding, and his manners exceedingly prepossessing.”

Ansart, a French physician, who emigrated to this country, was eminently polished, and by nature a perfect gentleman—every action graceful, every motion elegant. His son and his son’s daughter inherited these personal attractions.

That whole families will everywhere be found who are naturally genteel and refined in manners and conversation, while other families are naturally awkward, ungainly, and clownish, as well as wanting in propriety and good manners, is apparent to every observer.

That the mimicking disposition and capability are hereditary, is equally supported by facts.

Mirthfulness is also transmitted. Witty parents almost always have witty children, and sedate parents serious children. General Peters, though an eminently

religious man, would nevertheless take and make every opportunity to crack jokes, and tell laughter-moving anecdotes. In his head the organ of mirthfulness was large.

His brother, who resided in Connecticut, though he is religious and mourns over and strives to subdue his joking propensity, will nevertheless have his fun.

Two sons and a daughter of General Peters are also noted for the same disposition and capability. In 1837, the Rev. Absalom Peters, formerly editor of the "Biblical Repository," submitted his developments to the author's manipulation. Mirthfulness was found to be a leading organ, and the reasoning faculties were large; and hence he was described as endowed with a disposition to argue by RIDICULING. He afterwards stated that his uncontrollable disposition to regard things in a ludicrous light, and make fun even on serious occasions, was his besetting sin, and troubled his conscience more than anything else he did.

#### TALENTS IN GENERAL DESCEND.

Those who require specific cases, will find them in the parental history of every distinguished man. What son of genius was ever born of dolts? We will not swell our pages by cases already recorded, but introduce an extract from the manuscript of Joshua Coffin, whose genealogical knowledge, as well as general memory, like that of his ancestors, is most extraordinary, and whose conversation is full of biographical and hereditary anecdote.

"Men distinguished for their native strength of intellect have always been descended from mothers of strong powers of mind; or, in other words, no woman who is weak or deficient in intellect ever had a child distinguished for talents. If the father is a man of talents, so much the better; but, be the father who he may, unless the mother has talents, the children will not—I might almost say cannot—be distinguished. It is not so much the SEED as the SOIL,\* from which the husbandman expects to obtain a good crop; but let him take what pains he may, in every respect, he cannot anticipate, nor will he obtain, anything worthy of notice, unless the soil is deep and rich. As a proof of this assertion, we must depend not on theory, but on FACTS. And, from long and careful observation, I have never yet known an instance of any person of superior intellect, whose MOTHER was not blest with strong powers of mind. Take a few examples:—Sir William Jones' mother was a woman of extraordinary talents, so was Napoleon Bonaparte's, so was Walter Scott's, so was the mother of Chief-Justice Parsons, of Schiller, of Rev. Richard Cecil; and, in short, of so large a number that time would fail me to recount them. Both the parents of Daniel Webster were distinguished for their talents; and, as a striking proof of the position I take, it will interest you to know that Col. Ebenezer Webster, father of Daniel, was twice married. By his first wife, a Miss Smith, he had several children, not one of whom was above mediocrity—in that respect resembling the mother. By his second wife, a Miss Eastman, he had three children: Daniel, Ezekiel—who was equal in point of intellect to Daniel—and a daughter, who was the mother of Professor Haddock, of Dartmouth College, and William Haddock, Esq., who died in Lowell. Daniel's grandmother Webster was a woman of extraordinary talents, which her son Ebenezer, Daniel's father, inherited. Trace, then, if you please, the genealogy of the Webster family, and you will find that certain traits have descended from father to son in the male line, but that in every case, where there has been any indication of superior talent, it has proceeded from the mother. The mother of Col. Webster was a woman of extraordinary talents, and his second wife, the mother of Daniel, was likewise talented. So it is, as I think, in nearly every case—that is, peculiar traits will descend in a family from generation to generation; but whether they are or are not distinguished for their talents depends upon who their mothers were. Let me illustrate.

"I presume you know Lewis Tappan, and his peculiar temperament. Talented, ardent, frank, honest, firm, undaunted, persevering, and industrious, he exhibits just such traits as have distinguished his ancestors for five or six generations. Abraham Tappan came to Newbury in 1634. His eldest son, Peter, was a physician in Newbury, and a noted man. The records of our court give ample evidence of his peculiarities. One of his sons was the Rev. Dr. Christopher Tappan, of Newbury, distinguished for his talents and his frank fearlessness in avowing his sentiments. I will mention one or two instances of his peculiarities: A Mr. Pettengill and his wife once brought up a child for baptism. The woman was a devoted Christian, but the father was irreligious. On baptizing it, Mr. Tappan said, with a clear loud voice, 'I baptize this

\* We want BOTH good seed AND good soil, to produce a good crop, as well in the animal kingdom as in the vegetable.—AUTHOR.

child WHOLLY on the mother's account.' On another occasion, during the excitement of 1742, he carried a whip into the church one Sunday, in order, as he said, to scourge out the enthusiasts. I ought to mention that he was a little deranged at that time, but it shows the disposition of the man. His descendants, down to the present time, have been distinguished for talents and progression.

"Hon. Mr. Atherton, of New Hampshire, now in Congress, is one of them. The Rev. Christopher Tappan's nephew, Benjamin, was minister in Manchester, Massachusetts—a superior man, whose son, David, was Professor of Divinity in Cambridge College. David's son, Benjamin, is now minister in Augusta, Maine—an able man. David, of Cambridge, was an uncle to Arthur, Lewis, and Benjamin—the latter being now a Senator in Congress from Ohio—and John and Charles of Boston. All of them are superior men. I could mention many others of the same family. Concerning the Tappan race, two things are observable:—

"Abraham Tappan had two wives. Dr. Peter Tappan was son of the first wife, and the other four sons, Abraham, Isaac, Jacob, and John, sons of the second wife. Now, while the descendants exhibit many of the traits of the family, the superior talents are almost all confined to the posterity of Peter. You will ask how I account for this. Could the truth be known, I entertain no doubt that Abraham's first wife was a woman of superior talents.

"His descendants in the line of Peter, for four generations, or down to Lewis Tappan's father, all married women of superior talents, as I happened to know. We, therefore, have a right to expect children to be intelligent, when both their parents possess superior intellect. With the history of this family I am well acquainted, as my mother was a Tappan, and my grandmother Tappan was a woman of superior mind. I shall say nothing of her descendants. Charles Tappan, of Philadelphia—the engraver—is one of her grand-children.

"Let me mention something concerning the Coffin family. Tristram Coffin came to this country in 1642, with his wife, Diouis, and left five sons and a daughter, 1660. He went, with three of his sons, to Nantucket, where their descendants, or many of them, still reside. One son, Peter, lived in Dover, New Hampshire, and the other in Newbury, Massachusetts. I shall say nothing of my own relations, except a few things in corroboration of two points—namely, that family traits are hereditary, and that talent proceeds from the mother. Tristram Coffin's wife was a superior woman. Her son, Peter, was Chief Justice of the Supreme Court of New Hampshire, and her daughter, Mary, who married a Starbuck, of Nantucket, was a woman of extraordinary talents and influence. For proof of this, see John Richardson's 'Journal.' He was a Quaker preacher. See also the novel, called 'Miriam Coffin,' which is founded on fact, and of which the greater part is true.

"Although the Coffins in Nantucket have been separated from the Coffins in Newbury ever since 1660, there is even now a striking family resemblance in look, and other traits. They are all very sociable, are great talkers, have good memories, love to travel, and have a great deal of curiosity. They are to be found in every State of the Union, and in every quarter of the world where ever a ship can sail; so that the name of Captain Coffin is as familiar to an American ear as John Smith.

"The family of Moody, the descendants of William Moody, who came to Newbury in 1634, have been and are now an excellent family, noted for good sense, honesty, and religious principle. So of the descendants of Thomas Hall, and many others whom I could mention. The conclusion to which I have arrived is this, that like produces like—that physical peculiarities are propagated, and descend from one generation to another, in the male line—that strength of intellect depends chiefly on the mother, and that, if the father be a person of talents as well as the mother, the children stand a much better chance of being intelligent than they would do if the mother alone were possessed of superior talents; but if the mother had a weak intellect, you may be assured that the children will not—I might almost say CANNOT—be otherwise than weak.

"The Sewall family, for two centuries, have been distinguished for talents, and nearly the whole time, from 1690 down to the present generation, some one or other of them has been Chief-justice of the Supreme court either in New England or Canada."

The author has found the intellectual and moral lobes of several of the members of this gifted family uncommonly large.

John Quincy Adams and his ancestry and descendants, still further illustrate this hereditary law, that talents are transmitted. Eloquent above almost any of his contemporaries, even at the advanced age of eighty; possessing more political and general information than any other man on this continent; remarkable for reten-

tiveness of memory, intensity of feeling, bitter and scorching sarcasm, intellectual clearness and discrimination, and superior in debate to any other man on the floor of Congress, he is the wonder of the age! And who is his son? A rising legislator, who bids fair to do honour to his illustrious line, as several of his literary productions, legislative speeches, and general intellectual capacities, abundantly attest.

And who was his mother? Eminently intellectual, as well as pious. And who was his father? Let the infant history of our country answer. The following biography of this distinguished family is in point:—

“Joseph Adams, great grandfather of John Q., son of Joseph and Hannah Adams, was graduated at Harvard College in 1710, and that same year kept the Town School in Braintree. The 16th November, 1716, he was settled in the ministry at Newington, New Hampshire, which station he sustained for sixty-seven years, and died 26th May, 1763, aged ninety-three years.

“He was while he lived eminent in his profession, and there are respectable descendants from him still residing in New Hampshire.

“John Adams, son of John Adams, senior, and the father of J. Q. Adams, was born 19th Oct. (old style), 1735. His life was one of the most eventful recorded in the annals of history, and his name will ever be remembered among the benefactors of his country, and among the glorious asserters of the rights of man. When quite young, he was not distinguished for an ardent love of learning, to which he afterwards so severely applied himself. Study was rather an irksome task to him, and to those acquainted with his youthful spirit, books seemed but the fetters of a mind, in coming years destined to work wonders in the cause of freedom.

“To those who knew anything of the last days of this great man, it is wholly unnecessary to mention how great were his conversational powers, and that to all who were so fortunate as to listen to him, the fund of anecdote from which he drew for their instruction and entertainment, was inexhaustible. It was his delight to speak of interesting incidents which he had been connected with himself, not through vanity or ostentation, for these were not a part of his nature, but to bring conviction to the mind, that of much that was considered abstract truth, there were found sensible illustrations in common life. The following anecdote related by him, even to the last day of his life, with all that good humour which was so characteristic of him, it is presumed has not yet passed away from the minds of many who have heard it from his own lips. A few only of his strong expressions are remembered:—

“When I was a boy, I had to study the Latin grammar, but it was dull, and I hated it. My father was anxious to send me to college, and therefore I studied the grammar, till I could bear it no longer; and going to my father, I told him I did not like study, and asked for some other employment. It was opposing his wishes, and he was quick in his answer. “Well, John,” he said, “if Latin grammar does not suit you, you may try ditching, perhaps that will;—my meadow yonder needs a ditch, and you may put by Latin and dig.” This seemed a delightful change, and to the meadow I went, but soon found ditching harder than Latin, and the first forenoon was the longest I ever experienced. That day I ate the bread of labour, and glad was I when night came on. That night I made some comparison between Latin grammar and ditching, but said not a word about it. I dug the next forenoon, and wanted to return to Latin at dinner, but it was humiliating, and I could not do it. At night, toil conquered pride, and I told my father, one of the severest trials of my life, that if he chose I would go back to Latin grammar. He was glad of it, and if I have since gained any distinction, it has been owing to my two days’ labour in that ditch.’

“He was prepared for college in the school of Mr. Joseph Marsh, then a distinguished instructor in this place, and was graduated at Harvard University, in 1775. After leaving college he kept a school in the town of Worcester, studied law with Col. James Putman of the same place, and while engaged in this study wrote his famous letter, so prophetic of the greatness of his country.

“In his profession he became early distinguished, and was appointed Chief Justice of the Supreme Court. He was foremost among that band of patriots who laid the foundation of the independence of our country. His conduct in the cause of Preston, with his friend Josiah Quincy, jun., would of itself have made his fame enduring.

“He was member of the first Congress in 1774, and was the bold adviser of the Declaration of Independence. He was chosen on the committee to draft that paper, and eloquently defended it. He was sent Minister Plenipotentiary to the Court of France, the same to the United Provinces, and was many years the American Minister in France and England. In 1789 he was chosen Vice-President of the United States,

and in 1797 was chosen President. In 1817 he was chosen one of the electors for the choice of President. In 1820 he was sent by his native town to the Convention, for the purpose of amending the Constitution. He was elected President of the American Academy of Arts and Sciences; had been a member of various other societies—filled the most important stations in the gift of the people, and received the highest honours from our universities and colleges. The latter part of his life was spent in private retirement. As an orator, he was one of the most powerful his country ever beheld. It was the remark of Thomas Jefferson, that on the subject of the colonies, John Adams, by his eloquence, 'moved us from our seats.' In learning he was profound, and in religious knowledge surpassed the theologians of his age. He died at six o'clock p.m. on the 4th of July, 1826, in the 91st year of his age."

"The remarkable circumstances of his death, as well as that of his compatriot and friend, Thomas Jefferson, are too well known to need further remark. It may be worth while to mention, that previous to the 4th of July, he had been solicited to give a sentiment for his fellow townsmen, at that day's celebration. 'I will give,' said he, 'INDEPENDENCE FOR EVER.' On being asked if he would add anything, he answered, 'not a syllable.' This sentiment was drunk amidst the united acclamations of his fellow townsmen, perhaps at the very moment when his spirit was returning to God who gave it."—*History of Quincy, by Rev. Geo. Witney.*

Jedediah Adams, son of Peter, grandson of Joseph, and great grandson of Henry, the ancestor of this family, died 1799, in his 89th year, and the 53rd of his ministry. Nearly or quite all the Adamsons of note are descended from Joseph, the eighth and last son of the ancestor. He married a Baxter, through whom, probably, the Adamsons receive their talents; he had twelve children, and died at 83—two indices of great physical vigour.

Professor Adams, of Vermont, the first scholar in the author's college class, is from the same stock.

#### ORDER HEREDITARY.

Few likenesses evince a greater development of this organ than that of Elias Hicks, and few persons possessed the corresponding FACULTY in as prominent a degree. His business, religion, everything, was perfect clockwork, and this peculiarity is equally conspicuous in the organizations and characters of several of his grandchildren and great grandchildren. His physiological conformation, in common with the one already given, indicates longevity.

Mrs. Gibson, mother of Dr. Gibson, formerly editor of the United States Telegraph, Washington, D.C., had an extraordinary organ and faculty of ORDER, so much so, that the least thing out of place annoyed her excessively. Her son, Dr. Gibson, had but little, and his wife not a great deal, but his little daughter "took after" her grandmother, and even before she could put things in place, evinced great uneasiness at every trifling instance of disorder. As soon as she could walk, she went about the house, grandmother-like, setting chairs and everything to rights.

Specific intellectual talents and calculation are also innate. Of this the transmission of the mathematical talents furnishes an illustration. I found large Calculation in the head of Mr. B., of Woodbury, New Jersey, and described him accordingly. He said he never found his equal, except in his FATHER and GRANDFATHER.

Mr. H., near W., Pennsylvania, has great mathematical organs and talents, which have descended FOUR generations. A cousin is a celebrated mathematical teacher, and a public surveyor of Columbia County, Pennsylvania. This talent is most developed in the male line.

A son of the author of "Colburn's Arithmetic,"—a work which has now remodelled, because vastly superior to the old method of teaching figures, and shows its author to have been endowed with very large Calculation—has this organ also large, together with a literal passion for this class of studies. He is a surveyor and civil engineer.

Zera Colburn, that mathematical prodigy, who, at six years old, could solve mentally almost any problem propounded to him, so as to astonish the great men of his day, was probably related to the author of Colburn's arithmetic. Both, doubtless, derived their extraordinary mathematical genius, in common with their names, from one common ancestor. Zera's younger brother, and a nephew, have this organ large, and faculty powerful.

Anecdotes of Zera's father indicate that he too possessed this organ and gift.

Mr. Tappan, of Newburyport, almost equalled Zera Colburn in mental arithmetic, and his father, a broker, excelled in figures.

Dr. Lee, of London, Canada West, possesses superior mathematical organs and

powers, as have also his ancestors for three generations, and his children have large Calculation. It comes through his mother and her father, whose names were Hall, of Connecticut. This talent has thus been transmitted FIVE GENERATIONS.

Herschel's organ of Calculation was extraordinary, as was also its faculty, and his grandson Herschel inherits the same KIND of astronomical talents in an eminent degree.

The Leavitt family are generally remarkable both for strong common sense and mathematical genius. Dudley Leavitt, for a long time the almanack maker of New Hampshire, was an eminently scientific and profound man, and a great general scholar, though his forte was mathematics. His numerous relatives and descendants have been noted for superior intellect, excellent judgment, profound research, literary attainments, and especially mathematical genius. A Massachusetts branch of this talented family are all characterised by these qualities, of whom Joshua Leavitt, ex-editor of the New York Evangelist, the Emancipator, and some other papers—a powerful writer and clear-headed reasoner—is one. This family, also, are generally staunch REFORMERS, and noted for moral worth and progression. Similar cases are constantly occurring in the author's professional practice.

#### MEMORY HEREDITARY.

Elihu Burritt has probably the best historical, lingual, and general memory of any man living. Besides understanding over FIFTY LANGUAGES, he has at command the literary lore of the whole ancient and modern world, and accordingly has the largest organs of Individuality, Eventuality, and Form, the author has ever seen.

His maternal grandfather, Hinsdale, was a remarkable man, intrusted with town offices, a great READER, and with only ordinary advantages possessed himself of an extraordinary fund of knowledge.

Burritt's BROTHER, author of that excellent astronomical treatise, the "Geography of the Heavens," inherits a like insatiable thirst after knowledge, and faculty in acquiring it, besides being extensively erudite.

A SISTER and a MATERNAL NEPHEW are also endowed with a similar power of memory, and passion for reading, as well as capacity of storing their minds with knowledge.

One of this learned family, I think Elihu's brother, literally KILLED himself by study, in which he progressed with astonishing rapidity. This wonderful love of learning, and capability of retaining it, will undoubtedly be found to have been handed down to the Hinsdales, and throughout the various branches of their descendants, as far as it can be traced.

#### THE MUSICAL PASSION AND TALENT TRANSMITTED.

Benj. Lamborn manifested a musical ear and voice when only two years old; at four, his neighbours often gave him money because he sang so charmingly. He learned Log Cabin songs, Yankee Doodle, etc., by hearing them sung only two or three times. Tune is so very large in his head that the author had a cast taken.

His brother had the same capacity and passion, as have also every one of his four brothers and sisters. His father could never turn a tune, but his mother and her father were musical geniuses.

The Coffins are generally excellent singers. Joshua Coffin and all his children have superior musical ears and voices, which they inherit from his grandfather Coffin, and he from his mother, a Morse. This grandfather had twelve children, and over forty grandchildren, all of whom sing, as do all their children and grandchildren. This musical passion and talent has thus descended SIX GENERATIONS.

Mrs. Brevort had a nice ear and natural turn for singing, as well as a delightful voice, all of which she transmitted to several of her children, if not all. One of her sons is one of the very best of singers, and has commanded high salaries as chorister and teacher. His sister is a natural musician, as are all her children. They catch tunes by simply hearing them sung at concerts; are endowed with sweet voices, and sing much of their time, as well as learn instrumental music with great facility. Both the parents of Mrs. Brevort were natural singers of surpassing excellence, and one of her nieces is a splendid performer. Several others have inherited this faculty from these singing parents.

The Hastings family, wherever located, possess extraordinary musical genius, and especially a discriminating EAR. The one stationed in New York has become celebrated throughout the musical world for harmony, composition, and execution. He is an albino, and his brother of Rochester, also an albino, has a like ear, taste, and

passion. They can endure no music but the very best, and are thrown into perfect agony by discord, but enjoy good music beyond description. Another albino brother resembles them in all these respects; but the other brothers and sisters, though musical, are less so. A parent or else grandparent, also albino, possessed this musical faculty in a pre-eminent degree. It is traceable FOUR generations. It probably extended farther back, but has increased probably by exercise as it descended.

Patrick Henry furnishes another striking proof of this law; but it is held in reserve, to illustrate another most important application of it, soon to be adduced.

Yet few readers will need to go far from home for kindred examples. The children of great talkers are generally "chips of the old block;" and one of the best evidences that yonder mute and hashful girl will, when grown, be a great talker, is, that she resembles her talkative mother. That son, too, who "takes after" a parent gifted in speech, is almost certain to possess the natural talents of an orator.

#### THE REASONING POWERS TRANSMITTED.

Benjamin Franklin was one of the world's great men. For practical wisdom, and power of diving deeply into the principles of things, only very few have ever equalled him. In sound philosophy, strong common sense, facility of adapting ways and means to ends, and whatever involved the reasoning powers, none at or since his time compare with him. He also possessed great mechanical talents, of which his improvement of the printing press is an example. His mathematical talents, conjoined with his Causality and Constructiveness, analyzed and brought electricity from the clouds, invented the lightning rod, and successfully prosecuted both astronomy and the whole range of natural science. Of SUCH a man, what was the parentage? Let his own pen answer:—

"I suppose you may like to know what kind of a man my father was. He had an excellent constitution, was of a middle stature, well set, and very strong. He could draw prettily, and was skilled a little in music. His voice was sonorous and agreeable; so that when he played on his violin, and sang withal, as he was accustomed to do after the business of the day was over, it was extremely agreeable to hear. He had some knowledge of mechanics, and, on occasions, was very handy with other tradesmen's tools. But his great excellence was his sound understanding, and his solid judgment in prudential matters, both in private and public affairs. It is true he was never employed in the latter, the numerous family he had to educate, and the straitness of his circumstances, keeping him close to his trade; but I remember well his being frequently visited by leading men, who consulted him for his opinion in public affairs, and those of the church he belonged to, and who showed great respect for his judgment and advice. He was also much consulted by private persons about their affairs, when any difficulty occurred, and frequently chosen as arbiter between contending parties."

Yet Franklin probably owed still more to his MOTHER than father. Her father, Peter Folger, was a man of great strength of intellect, soundness of judgment, and moral worth, as were also his father and his father's brothers. His descendants, too, down to the present time, evince those very mental characteristics which Franklin possessed, as well as resemble him in looks and form of head.

Walter Folger, a lineal descendant of Peter, of Nantucket, is a truly great man, whether we consider his remarkable ability to acquire and retain knowledge, his mechanical and inventive genius, his astronomical and philosophical powers, or his strong common sense, or all combined. When only twenty-two, he invented and constructed the most remarkable clock in the world. It shows the time of day, day of the month, rising and setting of the sun and moon, the year, the revolutions of the planets (one of which it requires one hundred and twenty years to perform), and many kindred astronomical phases, and is so ingeniously constructed that he offers to give it to any one who will take it apart and put it together again right. At exactly twelve o'clock of every new year the eighteen remains, and the thirty-eight, or forty, or forty-seven, or whatever the new year may be, appears in place of the old, and thus of the other things it chronicles.

He constructed a telescope, did the work even to the grinding of his own lens—the very nicest piece of mechanism imaginable—with his own hands. He is one of the greatest—probably the first—astronomer in the world. By a rigid and most intricate mathematical calculation, he invented the form of harrel which allows the greatest amount of oil to be stored in the smallest place, which has saved millions of dollars to his native island alone. His descendants are also great mathematicians, and remarkably ingenious, as are all the Folgers in Nantucket.

Lucretia Mott, "the female Quaker preacher," was a Folger, descended from the same Peter Folger, and has the same high, broad, and capacious forehead, or prodigious organs of CAUSALITY which characterise Franklin's head and appertain to the Folgers generally. She also stands unsurpassed by any of her sex for power of thought, discrimination, reasoning, and general strength of intellect. Thus this Folger family, as far as it can be traced, is distinguished for those same mental powers which constituted the Prince of American philosophers.

Lord Bacon also inherited his mighty intellect. For powers of reasoning no age has ever produced his equal. His maternal grandfather, Sir Anthony Cook, distinguished himself for his universal genius and talents. Besides being a perfect master of the languages, he excelled in history, poetry, and the mathematics. Of Anne, Lord Bacon's mother, Macaulay remarks thus:—

"She was distinguished both as a linguist and a theologian. She corresponded in Greek with Bishop Jewel, and translated his 'APOLOGIA' from the Latin so correctly that neither he nor Archbishop Parker could suggest a single alteration. She also translated a series of sermons on Fate and Freewill, from the Tuscan of Bernardo Ochino. Her parental care of her two sons, Anthony and Francis, two of the most extraordinary men of her time, or, indeed, of any other time, is probably the best test of her powers, which was deeply felt by Francis, who, in his will, says: 'For my burial I desire that it may be in St. Michael's Church, near St. Alban's—there was my mother buried.' In Birch's 'Memoirs of the Reign of Queen Elizabeth,' the extraordinary vigilance used by Lady Anne in superintending their conduct long after they were adults may be seen."

"Sir Nicholas Bacon," continues Macaulay, "was no ordinary man; but the fame of the father was thrown into the shade by that of the son." "Sir Nicholas Bacon," says Lloyd, "was a man full of wit and wisdom. He had the deepest reach of any man at the council-table; the knottiest head to pierce into difficulties; the most comprehensive judgment to surmount the merits of a case; the strongest memory to recollect all the circumstances at one view; the greatest patience to debate and consider, and the clearest reason to urge anything that came in his way in the courts of chancery. His favour was eminent with his mistress and his alliance strong with her statesmen. He was Lord Keeper of the Great Seal during the time of Elizabeth. He was, in a word, father of his country, and Sir Francis Bacon."

## THE OFFSPRING OF KINSMEN INFERIOR TO THEIR PARENTS.

### THE CHILDREN OF COUSINS.

Though the correctness of this general law, that offspring inherit the mental and physical characteristics of their parents, is unquestionable, yet it is modified by several sub-laws, or other hereditary principles, one of which is, that the children of near relatives either fall far below their parentage, or else are mal-formed or idiotic. That all kinds of domestic animals are improved by CROSSING THE BREED, but deteriorated by "breeding in and in," is a fact known experimentally to every stock-raiser. This law governs all things that propagate. That it governs man is rendered apparent, not only by nature's absolute requisition, that every human being should have two parents, four grand-parents, eight great-grandparents, sixteen great-great-grand-parents, thirty-two of the next, and sixty-four of the next anterior generations, one hundred and twenty of the next, and two hundred and forty of the next, etc.—except where the offspring of one common ancestor marry each other—but by FACTS. The following illustrative cases were furnished by Joshua Coffin:—

"I will now relate such facts as have come under my own observation concerning the consequences of marrying blood relations. Whatever may be the cause, the fact is undeniable, that those families who are so foolish as to intermarry with blood relations, very frequently, if not always, degenerate, both physically and mentally. The laws of Moses on this subject are founded on strict physiological principles, which we should do well always to bear in mind, as they cannot be violated with impunity.

"N. P., of W., Massachusetts, a fine looking and intelligent man, of good sense, married his own cousin, and what a set of children! One of them is clump-footed, another has but one eye, and all three of them are very weak in intellect, small in person, and have heads shaped like a flat-iron with the point turned downwards, flat on top, and their chin making the point.



"When engaged as a school-teacher in M., Massachusetts, in 1829, I had several scholars. Among them two sons, by the name of E., one of whom was nearly an idiot, and the other not to be compared to either father or mother in point of intellect. On returning one evening from visiting the family, I inquired of my landlady if Mr. and Mrs. E. were not blood relations; she said, yes, they were cousins. I told her I thought so, solely from the fact that the children were so deficient in intellect. On stating this fact to Dr. Wisner, pastor of the Old South Church, Boston, he made the following observation: 'Do you recollect, Mr. Coffin, that singular looking member of my church who has the St. Vitus' dance? His parents were cousins.' You never saw such a singular looking object in your life. He appeared not to have any command over any muscle in his whole body.

"A family in N. B., Massachusetts, in which were a number of foolish children, were the offspring of cousins. The Rev. Mr. Duffield, formerly of Philadelphia, mentioned two or three families in the interior of Pennsylvania, who for the sake of keeping their property among themselves, have married 'in and in' for several generations, till their posterity are nearly idiots. There is a family in E. D., in fact, there are several families of the name, who have intermarried so often, that there is one or more idiots in almost every branch. In fact, no point is better established than this, that breeding 'in and in' deteriorates the race of men and the breed of cattle, both physically and mentally.

"Those young men, therefore, who wish to have intelligent children, must obtain intelligent women who are not blood relations, for wives."

Mr. Hale, cousin of Joshua Coffin, furnishes the following:—

"H. L., of N., Massachusetts, married his second cousin. Has one daughter of fourteen, nearly an idiot.

"T. A. married his cousin's daughter, had five girls, no boys; two were complete cripples, and very deficient in intellect—almost idiots—one was quite so—one daughter was married, and died childless. The other two married—the children of one of them are apparently below mediocrity.

"S. L., of N., married his cousin, Miss S. A.; they were second cousins—that is, their parents were own cousins—had eight sons and two daughters, all living, 1841. Two sons and one daughter are unable to walk, and are hauled about in carriages made for the purpose—their younger child is deaf and dumb, besides being born like the others mentioned. A. D. once told me that he was born well, and that, in early years, he lost his sense of feeling in his toe joints, which afterwards became dumb, and in process of time, to use his own expression, they 'LAPPED,' and so it was, joint after joint, upwards in his arms, as well as his toes and legs, till EVERY JOINT WAS AFFECTED in his whole frame. Perhaps he was about twenty when he became utterly helpless, and then took to his carriage—the others grew lame in the same way. J., though now twenty-two or three, can walk a LITTLE.

"Dr. P., knows a family in the town of P., in New York, where the parents are cousins, and all of the TEN children were fools; he also mentioned several other cases.

C. H., of N., Massachusetts, a clear-sighted, shrewd man, married his own cousin, lost three children while young, has four living, eldest fourteen, all under mediocrity, parents sound.

"Mr. E. S. and wife, of N., Massachusetts, were own cousins, both of them of strong mind, firm nerve, and sound health. They had seven daughters and one son; three daughters deranged, the rest of feeble health, and very nervous."

"Mr. P. P., of B., married his second cousin; their eldest child is too deficient in mind to take care of himself; the other children are not what are called bright, though fair.

"Dr. H. W., of B., New Hampshire, now of B., knows four men who married cousins, each of whom had a fool for a child. The other children were below par.

"Mr. N. G., from D., New Hampshire, said that he and his mother counted about twenty-five families in D., who had intermarried, and of ALL their children, not one could they remember of ordinary capacity!

"I was told that a Mr. P. of Me., married his own cousin, Miss W., both now dead—leaving five boys and three girls—two girls and three boys blind—parents good.

"J. L. A., of N., married a cousin's daughter, has three children, apparently healthy, but not strong-minded.

"R. D., of B., Me., had for his first wife his cousin's daughter; their oldest child is lame in the hip—the other two are of feeble health and failing.

"J. P., of W., married his own cousin. Of their children, one died an idiot, two

sons died at the age of twenty-three, of feeble bodies and irritable minds, and one girl has diseased eyes. Some of the boys are club-footed, wry-necked, &c.

"Mr. E., of Massachusetts, married his cousin—had five daughters and three sons. One of the daughters is an idiot of so painful a sight that the parents board her out. Two of the other daughters are foolish—the other two are weak—one son weak-minded—has been made lame—one son ran away with some of the town's money—the other son is a worthy, upright man, but unfortunate in all he lays his hands to.

"A Mr. —, of W., M. county, of New York, married his cousin, had many children, all crippled, none could walk, all bright.

"Mr. D., of Ohio county, married his cousin, had thirteen or fourteen children—all dead but three, and those invalids.

"Judge C., of Ohio county, New York, was married to a cousin, had several children who died idiots—of the two now living, only ONE can be said to have common sense.

"Mr. N. S., of N., married his cousin, a Miss Pettingal,—they are not **OVER** bright, and their children are decidedly under bright, so as to be a by-word.

"N. and S. W., of T., brothers,—one married his cousin; his children are full of mishaps, feeble in body and mind, blear-eyed, &c. The children of the other brother are upright, manly, handsome people."

Some facts would seem to indicate that debility and sickness attend the parents who marry blood relations as well as their children—an inference rendered probable, by that great law of harmony which pervades nature, and renders whatever is beneficial or injurious to offspring, equally so to parents.

"C. W., has six children by his cousin, one boy and five girls, of whom three are deaf and dumb."

The noble families of the old world are fast running out, and their deterioration is generally ascribed to their aristocratic custom of marrying blood relations. It is doubtful whether the present royal nurslings of Albert and his cousin Victoria will ever astonish the world by their talents.

Mr. B., of Meredith, New Hampshire, married his cousin and had eight children, four of whom are dead; one kept his cradle till five years old, when it died; three had moderate capacities, two are complete idiots, and one—the only bright one of the eight—has no legs, and only a stub of the right arm. Mr. B., by a second marriage, had two bright children.

Mr. N. and his cousin, both intelligent, married, and out of seven children, three were crazy, two were simpletons, one barely passable, and one fair.

D. H.'s parents were cousins, and two of his brothers became blind young, while he had a small head and Causality, and a sluggish organization.

W. G., of S—, Massachusetts, brother of Professor G., of New Hampshire, married his cousin, and all his children were lame, or some way out of joint.

Mr. B., a man of considerable sagacity, lived as a husband with his niece; and his children, numbering some eight or ten, were much inferior, physically and mentally, to either of the parents. Four were helpless, and two, a male and female, had uncommonly large, but diseased heads. The male's head measures about thirty-six inches in circumference, the female's a trifle less.

Mr. Foster, teacher in the deaf and dumb asylum, Philadelphia, says that of seven children of first cousins whom he knew, six were idiots, and one a mute, but smart; and of another family, two were mute idiots, and three mute but smart.

James I., that weak and timid monarch, was the product of cousins, Mary Queen of Scots and Darnley.

C. Cooper, of P—, Pennsylvania, married his cousin, and has two **ALBINO** children.

Blennerhasset, connected with Burr's conspiracy, and defended by Wirt, ran away, and lived with his niece. A New York editor stated, in 1840, that B's son was then a vagabond idiot, wandering about the streets of that city.

Mrs. Maurico, of Boston, said that while living in a neighbouring town, the strange and foolish speeches of some of her son's school-mates, as reported by him, arrested her attention, and inquiry disclosed the fact that they were made by the children of **COUSINS**, and that out of five pairs who married cousins, four had idiotic offspring, and the children of several of the others were none the smartest.

Sarah Blair, of Portland, Maine, reports the following as having transpired within the circle of her observation, where the parents had married first cousins:—

M. B. of Westbrook, had two children both deaf and dumb.

Mr. L., also of Westbrook, had two that were deaf, dumb, and blind.

D. L., also of Westbrook, has two children too deficient to render themselves of any service; they walk like drunken persons, and have the St. Vitus' dance. Two others are deficient.

J. H., of Westbrook, had two natural fools.

Mr. D., of Cape Elizabeth, had three hermaphrodites.

S. H., of Poland, had three natural fools, so low in the scale that they could not talk, or feed themselves: had to be fed with spoon victuals, and could not even chew their food. The youngest cannot walk, though twenty-seven, but only litch along.

One of Mr. H.'s children is only half-witted. Miss Blair adds that she knows other cases less aggravated, where the marriage was between first and second cousins.

A valued friend of the author fell in love with his double cousin—their fathers being brothers, and mothers sisters—and though remonstrated with by the whole family, and this law pointed out, yet they married. Three years elapsed before the birth of their first child, which died fifteen minutes afterwards.

The son of a P. O., at A—, handed a letter to the author in a very polite manner, and after he left the following dialogue ensued:—"A smart boy that." "How old do you think he is?" "About ten." "He is SEVENTEEN, and has a brother proportionally small." "Then were not their parents cousins?" "They were."

Opposite the principal tavern in Adams, Jefferson County, New York, I examined the heads of two idiots, the offspring of cousins. That of the eldest measured only nineteen inches, though twenty years old, and of the youngest only seventeen—less than infants' heads. They could barely swallow, but could neither feed themselves nor walk. One of this unfortunate family had just died, and another had died some time previously, both total idiots. Only one escaped either idiocy or death in infancy, and this one had barely sense enough to take care of himself.

An anxious mother in D—, Pennsylvania, who had lost all her children but two, who had lax muscles, yielding waists, and feeble constitutions, called to consult me touching their health. She married her cousin.

Dr. Kimball, of Sacket's, of Harbour, states that a partial idiot, the product of cousins, residing some three miles east of that village, is too simple to take care of himself, yet memorizes with astonishing facility.

The inhabitants of Martha's Vineyard are said to have married "in and in," till many of them are blind, deaf, dumb, or deformed, and some all four. My informant related the case of two blind girls, whose parents heard and saw. These parents were cousins.

A family of ELEVEN children, whose parents were cousins, all married cousins to keep property in the family—a most mean and despicable motive—and one child was a total idiot, and several others were none of the smartest. See if the stupidity of their offspring does not run out the property thus attempted to be kept in the family by thus violating nature's laws, more effectually than if these parents had married poor consorts "It is in vain to kick against the pricks." One of this family argued the point that SOMETIMES the offspring of cousins escaped idiocy and deformity, yet could not prove even this; but this very argument implied that MOST were deficient. Some such families do indeed escape; yet the children of ALL cousins will be found to fall far below their parents in health and talents; and except in particular cases, they will be deficient, mal-formed, or idiotic.

To this list of facts any required number might be added, but a principle proved by almost every marriage of cousins, will hardly be questioned; and if it be, let Lawreuce, Combe, and Walker be consulted.

The marriage of still nearer kindred, as of brothers and sisters, produces results still more disastrous, a most disgusting illustration of which occurs in Clark County, Ohio, the details of which are truly revolting, though both parents were respectable for talents, and also church members.

The General Assembly of the Presbyterian Church is at loggerheads concerning the marriage of a brother or sister of a previous marriage. Such unions violate no physiological law, and are therefore right; and to waste so much breath and ink, and divide the churches on a point no way essential, is weak and wicked.

#### THE OLDER THE PARENTS, THE MORE MENTAL AND LESS ANIMAL THEIR ISSUE.

By a law of things fully established in SELF CULTURE, where its reason is given, the physiological functions of animal propensities are stronger in all while young than during the meridian or decline of life. Since, then, children resemble their parents,

and since parents are more animal and less intellectual and moral while young than as they advance in life, the younger the parents the more sensual and less talented their offspring. Hence the younger children are often the cleverest.

This important conclusion is established by FACTS. It is confirmed by the parental history of every man and woman distinguished for talents and worth. A few cases :—

Franklin was the youngest child of the youngest child for FIVE SUCCESSIVE GENERATIONS, and that on his mother's side, from whom, more than from his father, he inherited his talents. He was the FIFTEENTH child of his father and the eighth of his mother.

Benjamin Jonson was born when his father was above 70, and his mother about 42.

Pitt, Fox, and Burke were each the youngest child of their respective families.

Daniel Webster is the youngest by a SECOND MARRIAGE.

Lord Bacon was the youngest by a second marriage, born when his father was 50 and his mother 32.

Benjamin West was the tenth child of his parents.

Washington's mother was 28 at his birth, and his father was much older ; and Thomas Campbell's father was over 70 at his birth.

Sir Wm. Jones's father was 66 when this intellectual prodigy first saw the light.

Doddridge was the TWENTIETH child, by one father and mother, and his mother's mother was very young when her father died, aged 62, which would make his grandfather above 50 when his mother was born. His father was at least 43 when his son was born.

Judge Story's mother was about 44 at his birth.

Alexander Hamilton was the youngest son by a second marriage. E. Lewis's mother was 33 at his birth.

Baron Cuvier's father was 50 at his marriage, and of course still older at the birth of his illustrious son.

All history abounds in similar facts. Nor are there many exceptions. Where is the distinguished man, born before both his parents had arrived at full maturity—say twenty-five or over? Let the reader subject this doctrine to the rigid ordeal of observation, and the more he investigates, the more he will be convinced, that the OLDER THE PARENT, THE LESS ANIMAL AND MORE MORAL AND INTELLECTUAL THE OFFSPRING.

Yet this law is modified by this condition, that in case the health of one or both parents declines as their family increases, the *eldest* children will be the smartest : because a powerful physiology is indispensable to intellectuality and morality ; and when that wanes in parents, it leaves their younger children less vigorous ; and hence less highly endowed. This exception is especially observable where the health of the MOTHER declines as her family multiplies. The reason is too obvious to require comment ; yet this does not invalidate the LAW involved.

A similar exception and reason occur in case one of the parents is in the decline of life. When both parents are about alike in point of age, nature ordains that they shall cease bearing just as soon as they begin to decline, and even before ; for Amative-ness wanes before any other power of body or mind, or rather takes on a higher and purer tone. Yet where one parent is younger than the other, and this faculty expand beyond what it would be if the parties were of the same age, it may continue to beget offspring after both the mental and physical powers of one begin to wane, which would cause the youngest children to be the POOREST. Other kindred exceptions may possibly occur ; that is, other laws may sometimes slightly modify the action of this law ; yet it is obviously a general ordinance of nature, that the mature are born of the mature, and the green of the green, as well as the strong of the strong, and the weak of the weak ; although unripe seeds never reproduce.

#### THE AGE MOST SUITABLE FOR MARRIAGE.

This law warns youth not to rush headlong into wedlock, under penalty of immaturity and perhaps sensual offspring. Children should never give being to children. By developing the sexual instinct later than any other, and then ordaining its decline before any other has begun to wane, and thus COMPELLING man to propagate only during the period of the greatest physical vigour, nature very clearly teaches and practically enforces the law in question ; and woe to those who violate it, and woe to the offspring of such violation. On finding the two elder children of a family delicate, puny, spindling, loosely put together, and wanting in judgment, though endowed with memory, while the youngest was every way their superior, I expressed surprise, and

was informed that the mother married at sixteen, and had become worn out at twenty-eight. Youthful marriages ought to be prohibited.

Yet the number of YEARS is less material than MATURITY. Some ripen early, while others do not become men or women till after twenty; yet these, like the winter apple, keep the longer, and can bear late in life. Hence many a woman is neglected because on the wrong side of thirty, whereas she is younger in constitution than others at twenty, and will continue not only to bear, but to manifest all the elements of the woman long after the early ones have become superannuated. Yet nearly all marry too young, and many a reader has doubtless cursed his life with sorrows, by his hot haste to sip the sweets of early marriage.

Still, the error lies in the premature development of the sexual instinct. Let nature have her perfect work, and she will not implant this element till the subject is ripe for marriage. But our youth are put into a perfect hotbed of lust by heating meats and drinks, and by cultivating this passion in a variety of ways; and this hurries them into love and wedlock while yet in their teens, long before they have become perfect men and women. Even though persons may have attained a good growth, the system requires to be FILLED UP and strengthened. In fact, men ought to grow broader and heavier, if not taller, long after they are thirty, which, however, early marriage prevents, by diverting the energies from their legitimate channel, and expending them in sexual gratification, and the labours and watchings incident to the family. We will not here show the causes or evils of too early love and sexual pleasure, because the subject has been treated in "Matrimony," and in "Amativeness;" but we would charge all youth, by the value they set upon domestic happiness, to postpone this whole matter till they are PAST TWENTY; and even twenty-five is a better age than twenty, provided the affections can be controlled.

#### LARGE FAMILIES AND OVER-POPULATION.

A fox once boasted to the lioness, that she produced the most offspring. "Ah! but mine are LIONS," replied the latter. In general, our families are too large. Most farmers commit the egregious error by buying more land than they put under first-class cultivation. As from less land, well tilled, much more can be raised, and with much less labour, than from more land half tilled, so far more happiness can be secured by having no more children than can be taken FIRST BEST care of, than by a greater number of inferior ones. How infinitely better to produce one lion than scores of foxes—one Franklin than regiments of common men! Let each child be considered and made a GREAT and DISTINCT LABOUR, in its generation, carriage, nursing, and education, till fitted to take care of itself; and man will become almost a new creation!

#### DISTINGUISHED MEN FROM A LONG-LIVED STOCK.

That longevity, and of course its conditions, are transmitted, has already been fully established. Its principal cause is a great amount of VITAL STAMINA, or a powerful constitution. No man can live to an advanced age without great vigour of heart, lungs, stomach, and muscles.

Now this same condition is indispensable to both intellectual greatness and moral excellence. The brain, whatever be its inherent powers, can put forth itself no farther than it is sustained by corresponding power of the vital apparatus. The more powerful the brain, the stronger must be the body; else the brain breaks down the body, and death ensues. This principle has been explained and demonstrated before. Though invalids, by a strict observance of the laws of health, may be distinguished for mind, they had powerful constitutions in the start, and could have been more talented if they had always kept their health unimpaired. But we will not stop to demonstrate either the law that strong bodies are indispensable to strong minds, or that the same condition—great vital power—which secures longevity, is indispensable to talents, but proceed at once to canvass FACTS—our principal guide throughout this work.

Commodore Perry's grandfather was eighty-three at the time of his grandson's victory, and his father was fifty-five; and "still retained much of that strength and activity for which, in his younger days, he had been distinguished." This shows that his ancestry was uncommonly strong and vigorous.

The father of Ovid, the poet, lived to be 90; and Gracchus, the grandfather of Petrarch, lived to be 104.

Judge Story's mother, after whom he took, exceeded 90, at his death, and yet retains her intellect unimpaired; and the Judge, notwithstanding his herculean labours, and the extraordinary energies he put forth through life, was sprightly, and showed no marks of decrepitude at 60, and finally died at 66 of an intestinal obstruction.

Lord Wellington is from a very long-lived race. The surviving members of the issue of Gerald Wellesley, Earl of Mornington, are as follows:—

"The Marquis Wellesley, Lord Marlborough, Lady Ann Culling, the Duke of Wellington, the Hon. and Rev. Gerald, of Wellesley, and Lord Cowley. Their united ages make four hundred and forty-three years—average ages 75, and all yet alive—showing extraordinary longevity in one family; and since March, 1794, no death has occurred in the family excepting that of their mother—a thing unprecedented in the annals of the British peerage." John Wesley was from this long-lived pedigree.

The papers stated, about 1845, that Dr. Nott, the venerable and talented President of the Union College, was about EIGHTY-SIX. And yet how remarkably he retains his faculties! For illustration of this, see his temperance sermons—the product of a man over 80. They added that he had a brother in Farmingham about NINETY-SEVEN. Both of these facts show that these brothers were from a long-lived race.

The Rothschilds' are also distinguished men. Their success in amassing wealth shows that they were endowed with great physical and mental stamina. Nothing short of this could have sustained them through their arduous and long-continued labours. This they must have INHERITED. The present advanced age of their mother, and the still remaining energy of her mind, as evinced in the following sensible and witty reply to her physician, shows that she possesses great vigour of both body and mind:—

"Madam Rothschild.—This Venerable Madam, of Frankfort, Germany, now fast approaching to her hundredth year, being a little indisposed, remonstrated in a friendly way with her physician on the inefficiency of his prescriptions. 'Indeed, madam,' replied the doctor, 'unfortunately we cannot make you younger.' 'You mistake, doctor,' rejoined the witty old lady, 'It is OLDER, not younger, that I desire to become.'"

The mother of Joe Smith, the Mormon prophet, is still alive, and about 90.

That Burns's mother lived to be very old, and retained her faculties to a great age, is evidenced by an extract already quoted.

Washington's mother was found at work in her garden at 82, and died at 85.

Franklin's father died at the advanced age of 89, and his mother at 85, nor had either ever any sickness except their last.

O'Connell is from an exceedingly long-lived stock. Some of his ancestors have exceeded 100, and he is hardly past his prime, though above 70.

Charles G. Finney's father was about 84 at his death, and his mother exceeded 80. A brother of his father was recently alive, aged over 96.

De Witt Clinton's ancestors and their relatives were very aged people, and so have been many of their descendants.

John Quincy Adams's great-grandfather attained the great age of 93, was a preacher over sixty years, and retained his mental powers up to the last; and John Adams, his father, died aged 91, and was so smart, up to the very day of his death, that he expected to have gone from Quincy to Boston on that day to celebrate 'Independence.' The Adams's family have generally been long-lived.

Webster's ancestry lived to be aged. So did that of Dr. Johnson, and also that of Dr. Bowditch.

The settlers of New England were generally very long-lived, because all but those endowed with extraordinary constitutions died in becoming acclimatised. Hence one cause of the great energy of their descendants.

This law enforces the importance of HEALTH in parents. Longevity is the product of a strong constitution, and the latter is indispensable to talents, so that those parents who abuse their health, thereby entail MENTAL debility in their offspring, as well as physical. Let parents then remember that every violation of the laws of health in them deteriorates their offspring, and that whatever promotes the former re-endsows the latter. O how many parents have ignorantly cursed their children with imbecility, by a wanton abuse of health; whereas they might by a little care have blessed them with a higher order of health, talents and morality. Let those who love their children heed this momentously important suggestion.

#### GENERAL APPLICATION OF HEREDITARY LAWS TO HUMAN IMPROVEMENT.

All qualities, physical and mental, are peculiarly subject to transmission, when both parents possess the same qualities in a higher degree. Indeed, in such cases, unless the result is modified by the intervention of other hereditary laws, these qualities, as streams below the junction of two others, which embody the waters of both, take on the degree of power which exists in both parents collectively. A few examples.

Patrick Henry was probably the greatest natural orator the world ever produced. Demosthenes and Cicero were eloquent, but they studied and practised incessantly; whereas Henry's eloquence burst forth spontaneously, not only without culture, but in spite of almost insuperable barriers. He was probably the first publicly to advocate the separation from the mother country, as he was the first to break the solemn silence of the first Congress; and undoubtedly contributed more, by firing the whole country with the spirit of liberty, to achieve our national independence, than any other man, Washington alone excepted. But this is not the place for a panegyric. From what source did he derive his transcendent gift of speech?

From both his parents, of whom Wirt, in his "Life of Henry," thus remarks:—"He was the orator of nature; and such a one as nature might not blush to avow. If the reader shall still demand how he acquired those wonderful powers of speaking which have been assigned to him, we can only answer, that they were the gift of heaven—the birthright of genius.

"It has been said of Mr. Henry, with inimitable felicity, that 'he was Shakspeare and Garrick combined.' Let the reader then imagine the wonderful talents of those two men united in the same individual, and transferred from the scenes of fiction to the business of real life, and he will have formed some conception of the eloquence of Patrick Henry. In a word, he was one of those perfect prodigies of nature of whom very few have been produced since the foundation of the earth was laid.

"Mrs. Henry, the widow of Col. Syme, as we have seen, and the mother of Patrick Henry, was a native of Hanover county, and of the family of the Winstons. She possessed, in an eminent degree, the mild and benevolent disposition, the undeviating probity, the correct understanding and easy elocution by which that ancient family has been so long distinguished. Her brother William, the brother of the present Judge Winston, is said to have been highly endowed with that peculiar cast of eloquence for which Mr. Henry became afterwards so justly celebrated. Of this gentleman I have an anecdote from a correspondent, which I shall give in his own words: 'I have often heard my father, who was intimately acquainted with this William Winston, say, that he was the greatest orator he ever heard, Patrick Henry excepted; that during the last French and Indian war, and soon after Braddock's defeat when the militia were marched to the frontier of Virginia against the enemy, this William Winston was the lieutenant of a company; that the men, who were indifferently clothed, without tents, and exposed to the rigour and the inclemency of the weather, discovered great aversion to the service, and were anxious, and even clamorous, to return to their families, when this William Winston, mounting a stump, addressed them with such keenness of invective, and declaimed with such force of eloquence on liberty and patriotism, that when concluded, the general cry was, "Let us march on; lead us against the enemy." And they were now willing, nay, anxious to encounter all those difficulties and dangers which, but a few moments before, had almost produced mutiny.'

"Patrick Henry, the second son of John and Sarah Henry, and one of nine children, was born on the 29th of May, 1736, at the family seat, called Studly, in the county of Hanover, and colony of Virginia. His parents, though not rich, were in easy circumstances, and in point of personal character were among the most respectable inhabitants of the colony.

"His father, Col. John Henry, was a native of Aberdeeu, in Scotland. He was, it is said, a first cousin of David Henry, who was the brother-in-law and successor of Edward Cave in the publication of that celebrated work, the *Gentleman's Magazine*, and himself the author of several literary tracts. John Henry is also said to have been a nephew, in the maternal line, to the great historian, Dr. William Robertson. He came over to Virginia in quest of fortune, some time prior to the year 1730; and the tradition is that he enjoyed the friendship and patronage of Mr. Diuwiddie, afterwards the governor of the colony. By this gentleman, it is reported, he was introduced to the elder Col. Syme, of Hanover, in whose family it is certain that he became domesticated during the life of that gentleman. After his death he intermarried with his widow, and resided on the estate which he had left. It is considered as a fair proof of the personal merit of Mr. John Henry, that, in those days when offices were bestowed with peculiar caution, he was the colonel of his regiment, and for many years the principal surveyor of the county. His surviving acquaintances concur in stating that he was a man of liberal education; that he possessed a plain but solid understanding; and lived a life of the most irreproachable integrity and exemplary piety."

Mark, inquiring reader, that confluence of hereditary conditions here stated.

Patrick Henry's paternal grandfather Henry was maternal nephew of the great historian, Dr. William Robertson, and son of the conductor of that celebrated work, the *Gentleman's Magazine*. Here was then a union of two literary families in the parentage of John Henry. We may, therefore, fairly conclude from his parentage, as from his history, that Patrick Henry's father was a man of great strength of mind and extraordinary command of language, because his maternal uncle was so splendid a writer, and his father so distinguished a literary genius.

This product of the confluence of two great developments of Language, married into the Winston family, distinguished for their "easy elocution," as well as correct understanding—married the sister of "the greatest orator" of his time, eclipsed only by Patrick Henry. Or, figuratively, the two rivers of the Robertsons and Henrys united in the person of Patrick Henry's father, and this lingual river united with that of Winston's eloquence, and the confluence of all three produced the most eloquent man of his age, and probably of the world! To what but the combination of three extraordinary powers of communication can we ascribe a result thus magnificent!

And that Henry owed his forensic gifts to nature, not art—to parentage, instead of cultivation—it is too evident, from his early history, to require argument. It is also confirmed by his phrenological developments, which were exactly those required to secure natural oratory.

The Hutchinson family furnish a kindred illustration of this law of confluence, in its application to MUSIC. To say that they are the best singers to whom the author has ever listened, is but a just tribute to their musical genius. And that this talent was INHERITED, is evinced both by the extraordinary size of Tune in all their heads, and by the naturalness and musical pathos which characterise their style of execution. They sing from the soul, and to the soul, because Tune is SPONTANEOUSLY active and powerful. Unconsciously, in doors and out, before company and when alone, they sing; and that they sing with remarkable sweetness and harmony, the many thousands who have heard them are witnesses. Nor are "Quartette" probably better NATURAL musicians than the others, only they have been trained to sing in concert. The entire family possess musical genius of the highest order, both phrenologically and practically. Whence was it derived? Let the following extract answer:

"Judson, John, Asa, and Abbey, are the four youngest of the twelve now living, out of sixteen children of the Hutchinson Family. Their maternal grandfather, by name Leavitt, lived in Mount Vernon, in New Hampshire, and was a builder by trade. He built many houses in Boston, but he most prided himself upon being the builder of many churches and meeting houses in divers towns and villages in the State. He was a stout republican, zealous in the cause of his native land, and one of the firmest supporters of her liberty against the aggressions of the mother country. In character he was deeply religious, and being possessed of great national musical talent, was extremely fond of psalmody and church music. His two youngest daughters Sarah and Mary, inherited from him this gift in a still more remarkable manner, and their singing in churches and meeting houses was celebrated far and wide. Nothing could be more simple and primitive than the life they led; they spun and wove their own and the family's clothes; practised their songs over the wheel and the loom, and on Sundays or meeting days sang in church or the meeting house. Mary was very beautiful, and had many lovers; but Sarah had the finer voice, and her skill in church music was so great that she could take any part, and people came many miles to hear her sing. One day, when she was from home, she went to sing in a church at some distance, and, being on a visit, was dressed somewhat differently from what she was when at home. Her father happened to be at the same church, and was astonished by the beautiful voice of the singer, whom he saw but did not recognise. 'Who is that' he asked, turning to a neighbour, 'who sings so like an angel?' 'Do you not know your own daughter?' was the reply, which so much affected him that he could not help weeping.

"Mary, also, when she was singing one day in a village choir, stole the heart of a young man from Milford, in the same State. This was Jesse Hutchinson, the son of a farmer, a very religious man, and a deacon of the Presbyterian church. This youth also, like her, had been from his boyhood remarkable for his musical talent. He had a brother also gifted like himself, and they, too, were celebrated through the whole country for their musical powers. But though their father was a rigid Presbyterian, and a deacon of his church, his sons were famed for the fun and merriment which they brought everywhere with them. They were full of the joy and gaiety of youth,



and wherever they went they were welcome, not only because of the gay and merry songs which they sang, but because their violins were a summons to a general dance, which always lasted till daybreak. From some cause or other however, a great change came over his mind ; he considered this life of gaiety to be sinful, and regarding his violin as an incentive to it, cut the offending 'merry bit of wood' in two, and made it up into tobacco boxes, and from that time permitted himself only to practise sacred music. It was soon after this change, and about four-and-forty years ago, when, in his home-spun suit, and his hair tied in a queue behind with a black ribbon, and a broad beaver on his head, he presented himself to the beautiful young singer in the character of a lover. She was then not sixteen ; too young to be married, she said, and was hard to persuade. Her father, who thought very highly of the young man, who had borne a most excellent character, and who was come of so excellent a stock, pleaded for him ; but she would not consent, and leaving him in the parlour, she went to bed. He sat up alone all night in the room, and the next morning when she went in, there she found him. But she was still resolute, and he set off to Salem, thinking that time and absence might operate in his favour ; and he was right. On his return she was glad to see him, and though still young, she consented to be married. These were the parents of the 'Hutchinson Family' the 'good old-fashioned singers,' as the family song says, who still can 'make the air resound.'

"On his son's marriage, old Deacon Hutchinson gave up his house and farm to the young couple, and retired to a small house near them ; and Sarah, whose voice and character were like those of an angel, went with her sister to her new home. A word or two must be permitted here on this most heavenly-minded young woman, who, being one that the gods loved, died young ; and that principally, because, though her life was so short, her spirit seemed always to be present in the family, exercising, as it were, a purifying and ennobling influence on all. She was one of those gifted creatures who seem to be sent only to show how beautiful is youth, talent, and goodness ; and who in departing leave a ray of glory behind them, ascending from earth to heaven. The children of the family who knew her, adored her ; and those who were born after her death, from always having heard her spoken of, believed that they had known her. It often has seemed to the family as if her angelic voice was heard singing among them—a spirit-voice singing as no earthly voice ever sang.

"Jesse Hutchinson and his young wife were among the first Baptists in Milford, and were the introducers of their peculiar religious opinions into the neighbourhood. They frequently opened a large barn as a meeting house, and endured no little persecution. In those days carriages were not used, except by the wealthy ; and these excellent people, who had fourteen miles to go to their meeting-house, rode on horseback in the old-fashioned way of saddle and pillion, she often with a young child on her lap. The country round their home was hilly and woody, and of a peaceful, pleasant character ; and their life within doors was singularly happy and united. It was a home of affection, comfort, and prosperity ; and here fourteen children, twelve of whom were sons, were born. Sorrow, however, will enter, even in the most blessed of earthly homes. The angelic-minded Sarah died, and so did the eldest child when only nine years old. This child, like all the rest of the family, had a wonderfully fine voice, and was remarkably beautiful. He was always first up in the morning, and was heard through the house singing like a lark. His death was very affecting. His father and uncle were at a saw mill, at some distance, where he was sent each day with their dinners. While they sat and ate, the little fellow amused himself by playing among the sawn boards which were reared up to dry ; one day a sudden wind rose, and blew down the boards upon him, causing his death.

"Years went on ; the elder children grew up to man's estate, and the place was too strait for them. The parents and younger children, therefore, removed to one of the valleys below, on the banks of the Souhegan river, to a place called Buruham Farm ; and henceforth the former family residence took the pleasant name of the Old Home Farm. At this new home the two younger children, Asa and Abby, were born.

"The father of the Hutchinsons has all his life been in principle a non-resistant, and has carried his opinions so far into practice as never to sue a man for debt. He is an abolitionist, and a decided liberal in politics ; and has, as might be expected, suffered greatly for the maintenance of his opinions. He was described by those who knew him, as a man of noble and independent character, full of kindness, and remarkable for hospitality, even in a country where hospitality is not so rare a virtue as with us. But the guests that he most warmly welcomes are the poor and friendless ; these he entertains bountifully, and then speeds them on their way. From their mother, who likewise is a person of much boldness and decision of character, combined with great

tenderness and affection, they learned singing as children; she had fine taste, as well as natural power; and afterwards, the younger branches of the family were trained by two of the elder brothers, who devoted part of their time to this purpose."—*People's Journal*.

Mark here also the CONFLUENCE of musical genies in their parentage. Yet the *People's Journal* does not, by any means, relate ALL those hereditary conditions which united to transmit to this gifted family their genius for music. Their maternal GREAT-GRANDFATHER, William Hastings, was one of the first singers of his time, and especially remarkable for singing war-songs, in consequence of which he often received considerable presents. His voice was clear, melodious, and very powerful. He often sang when passing through a wood, to the great gratification of his neighbours, because his voice was so shrill, flexible, and possessed such a ringing echo.

His son also possessed similar singing gifts, and likewise excelled in singing martial songs, by which he greatly promoted the "Revolution," and being crippled by a shot, he made a part of his living by singing.

William Hastings had also an eminently musical WIFE, who, however, preferred psalm tunes, and was of a sad, melancholy cast of feeling, yet was at times all animation. This was the Hutchinson maternal grandmother. One of their daughters married into the Leavitt family, already cited for their musical genius. Here, then, was the UNION of the musical passion and talent of the Hastings and Leavitt families, in the production of the mother of this Hutchinson family.

Nor was Mrs. Hutchinson the only product of this musical union. The singing capacities of one of her SISTERS were still more remarkable. She was reputed the best singer in New Hampshire, and gave out and pitched tunes by ear, like a regular chorister. Peter Woodbury, a devotedly pious old man, usually came fourteen miles past his own church "just to hear Sally Leavitt sing." He said she would make the cold chills run over him one minute, and a warm glow the next—elevate him to the very skies, and then suddenly sink him into a most solemn and awe-struck mood—would make him crawl all over—feel as if his hair stood on end, and fill him with a perfect ecstasy of happy religious feeling. She was sent for from all parts of the State to sing on public occasions, and was considered unequalled.

She married a Mr. Averill, who drank to excess, had fifteen children—Mrs. Hutchinson had fourteen—all of whom excelled in music, and some of them were geniuses. She died by her own hands—probably in consequence of the gloomy cast inherited from her mother, who loved to sing psalms and plaintive music; she was always subject to extreme elation or depression of feeling. This is on the Leavitt or maternal side of the Hutchinson ancestry.

The author has heard Mrs. Hutchinson sing on "The Home Farm," and can truly say that he has never heard her surpassed for musical voice, pathos, and expression, by one of her advanced age. She, too, prefers plaintive or religious music, and inherits her mother's melancholy and extreme nervous excitability.

The FATHER and GRANDFATHER of the Hutchinsons were natural musicians. The latter sang by ear, and was chorister without ever having learned to read music, and learned his notes at the same school with his son; and all their relatives, as far as known—and many of them are scattered throughout that region—are great natural singers. Of twenty or more, examined by the author, every one possessed very large Tunes. Many years ago, quite a rivalry existed between "THE Hutchinson family" and their paternal cousins, as to who should take the lead of their church music—that is, which family were the best musicians; but those who inherited their genius from the Leavitts as well as the Hutchinsons finally carried off the palm awarded by the popular decision, doubtless because of this CONFLUENCE of the musical capacity in both their parents, as well as in at least THREE of their grandparents.

One other characteristic, transmitted from their great-grandfather, Hastings, already implied, deserves more especial remark, because it contributes greatly to their musical genius, namely, an extremely excitable TEMPERAMENT. Great susceptibility of feeling and the keenest sensibilities are indispensable to good music. I never saw a good musical artist without them. These the Hutchinsons possess in a most eminent degree. They are all FEELING, and liable to those same EXTREMES of elation or depression which characterise their mother, which caused their Aunt Sally to commit suicide, which prevailed in their grandmother Leavitt, and which was doubtless the consequence of the extreme irritability of their great-grandfather Hastings, who was a most passionate and violent-tempered man—a quality not unknown to some of his descendants.

Mrs. Hutchinson resembles her father Leavitt. He was a natural singer, and was

in his element when singing. He and his wife—the Miss Hastings who preferred psalm tunes—often sat up till after midnight to sing. He died in August, 1846, aged ninety-four. His great desire previously was to see his grand-children return from Europe, and as soon as he saw them, he said he was “ready to go,” and dropped off.

The Cheney family furnish still another illustration of the increase of the musical passion and talent by this law of confluence. The following, from the father of that branch and generation which have given concerts in our cities, is in point:—

“Friend Mason,—Agreeable to your request, and my promise when at Windsor, Vermont, I attempt to give you a short account of my own experience in relation to singing. In the first place, my parents were a little more than common singers. They, however, knew nothing of the rules of singing. All the knowledge they had of it was by rote, or what they learned of others by hearing only. Their voices were first-rate, and they were in the constant habit of singing in the family. Here commences my little education or knowledge in singing. I do not remember when I began to sing for the first time, but as long back as I can recollect, I was singing with my father and mother. To my mother, however, I am much more indebted for the first impressions on my mind in relation to music, than to my father. Seven of the first years of my life were passed off mostly with my mother, who was constantly singing to her little ones. Nothing is like a pleasant singing mother to teach little children to sing. I thank God for a singing mother and a singing father; and as little children are with their mother more than with their father, I am of strong belief, both from my own experience and observation, that much more depends on the singing mother than on the father. I cannot recollect one case where a singing mother has failed to raise singing children. But I can at once call to mind many singing fathers who have raised large families, without a singer among them—I mean if the mother did not sing at all. My mother raised up nine children—four sons and five daughters—and not a single failure of an easy singer among them all, and all have arrived at the years of manhood. My own family are the same in number, with this difference—five are sons and four are daughters. All are of age, and all are singers; and I trust all are yet alive. The mother of my children has been as easy and as natural a singer as any one of my acquaintances. I believe it rare that she ever took a child in her arms without singing to it. That was not all; singing was always interwoven with all her domestic labours in the house.

“I make this digression in my narrative, because it is what I personally know, both of my father’s family and of my own.

“Here I must close for this time. I only wish to indulge a few words about that blessed yearly singing convention at Windsor, Vermont, 22nd last month [May].

“O, what a blessed season. Both my body and soul have felt better ever since. I came home singing on the way, trying to make some such sounds as I heard there, especially ‘Jerusalem, Jerusalem—O, Jerusalem, my happy home.’ Ah! I do not wonder there is no sickness in heaven, there is so much singing there. There may all we singers meet. And those who have never learned here, may they meet and learn there, and all be one.

“Your humble servant, my dear sir, with respect,

“MOSES CHENEY.”

Moses Cheney married a Leavitt, of the same singing family with Mrs. Hutchinson; and both of her parents were superior singers. In this case, then, both of the parents of Moses Cheney, and both of those of his wife, a Leavitt, were enamoured of music, and excelled in it. What then may we expect in their children?

Simeon P. Cheney, of Montpelier, Vermont, is a teacher of music, and endowed with very superior musical capabilities, of which that whole section of country is witness. His phrenological organ of Tune is also very large, as the author knows by personal observation. He is also reputed to sing like his grandfather Cheney—which is considered no small compliment—whom he resembles in looks and mauners.

Simeon Cheney’s sister sings so beautifully, that Lowell Mason, the great musical umpire of New England, passed very high encomiums on her musical genius. All her brothers, sons of Moses Cheney, are excellent musicians; and so are all their uncles—the brothers of Moses Cheney—three of whom are music teachers. In short, the entire Cheney family are full of musical inspiration, and are first-rate in execution. Even their children—those of Simeon and his brothers—sing delightfully; so that music not only “runs in the family,” but throughout it, and increases as it descends.

But enough of this class of facts. There remains not the shadow of a doubt but that, where both parents possess any one faculty in an eminent degree, their children will be likely to inherit it in a greater degree than either parent.

#### THE COMBINATION OF DIFFERENT FACULTIES IN PARENTAGE.

As might be analogically inferred from the preceding, and from the entire tenor of the work, whenever one parent possesses one faculty in a strong degree, and the other another, their offspring will often inherit the predominant propensities and powers of both parents. Of this law a conspicuous example occurs in—

Enoch Lewis and family. Enoch Lewis, of New Garden, Pennsylvania, has very large Calculation and Causality, and is the almanac-maker of Pennsylvania, and reputed to be the oldest mathematician in the mathematical State, as well as a profound general reasoner. His mother, a Meredith, possessed the same talent and love of figures, and often propounded sums and problems to him while a boy, running about the house. Her father, John Meredith, too, excelled in figures and in general intelligence and reasoning capacity, as did likewise Enoch Lewis's mother's uncle, and likewise a son of his. His wife was also a superior woman.

Enoch Lewis's children, girls as well as boys, are all eminently mathematical, and have the corresponding phrenological organs all large. One of them has taught a mathematical school, and is considered for his age superior to his father. When only nine years old he was a perfect master of Algebra and Geometry, and at twelve, besides having gone through the higher branches of the mathematics, had even mastered Fluxions and Integral Calculus, which few men are capable of doing. What lad, but one descended from the most gifted mathematicians, could have achieved all this? And every descendant of Enoch Lewis inherits this talent in a surprising degree. Enoch Lewis's maternal uncle, and a cousin, who died young, inherited the same mathematical powers.

Mrs. Lewis possesses very large Constructiveness, and corresponding ingenuity in making things. Her father, William Jackson, and her paternal uncle, Isaac, were endowed with a like gift, for which they were so noted as to be the mechanics of their times and places. The author saw a most excellent clock made by her father, with no other tools than a jack-knife and gimlet; and several who have known him mention his extraordinary ingenuity. If any difficult piece of mechanical invention or execution was to be done anywhere near where Isaac Jackson lived, he was called upon to do it.

Now though Enoch Lewis has no mechanical ingenuity, yet his children inherit his mathematical organs and capabilities, along with Mrs. Lewis's mechanical genius. Here then is a confluence of two powers.

Mark, reader, this conjunction of hereditary conditions. Enoch Lewis's maternal grandfather has two children; his grandchildren and his great grandchildren are all endowed with mathematical and general reasoning capacities of a high order. A descendant of this line marries into a constructive line, and their progeny take the talents of both.

Nor are kindred cases rare. On the contrary, nearly every individual distinguished for talents or moral excellence, furnishes an example. It was a like confluence of great strength of intellect in both the parents of Franklin, as already shown, which gave birth to this intellectual sun of his age and after ages. Nor did Lord Bacon receive all his gifts from one parent. So far therefrom, both his maternal grandparents, and at least his father, possessed extraordinary powers of mind, and hence his mother was one of the very first of women, and his father was endowed with more Causality "than any other man in the kingdom." It required this confluence of conditions to produce the greatest mind of the world, and these same conditions parted a brother nearly his equal.

Webster furnishes still another illustration of this law of combination. "His grandmother, Bachiller," says Coffin, "was a woman of extraordinary talents." His mother, Eastman, was also eminently talented. So was Col. Webster, his father. No man in town was at all to be compared with him for intellect, especially for judgment, and the kind of mind conferred by Causality. For a long time he was the principal assessor of his town; and after ascertaining how much money was to be raised the current year, he would say to the clerk from memory, "Put Mr. A. down for so much, Mr. B. for so much," and so on, and generally came out within a trifle of the exact sum required. The confidence reposed in him was unlimited. This leads us to conclude that his parents were highly endowed. At all events, Webster's father, mother,

and a grandmother were all very strong-minded people. Hence this intellectual star of the first magnitude, and a younger brother, Ezekiel, still more gifted.

Jonathan Edwards and President Dwight were both the offspring of a like confluence of great intellectual and strong moral faculties. Edward's maternal grandfather Stoddard was a man of strong mind, and from a highly talented family, as well as of great practical goodness and fervent piety. Probably he had a superior wife, and certainly a most gifted daughter, Edward's mother.

Jonathan Edwards's father was a man of extraordinary scholarship and strength in mind, as already seen. Undoubtedly his parents again were distinguished; but be this as it may, Jonathan was the son of superior talents on both his father and mother's side, as well as on that of his maternal grandfather.

His wife, again, was a superior woman; and, as might be expected, his daughters were also distinguished both for intellect and morals. One of them married into another powerful line—the Dwights; and the product of this union was another moral and intellectual star, President Dwight. The others did not marry as fortunately, and their issue degenerated.

Milton's parentage was eminent on both sides; but he married an ordinary woman, and had only common-place offspring.

Doddridge, likewise, was not the product of one gifted parent, but of two, both of whom were highly endowed, intellectually and morally. In short, every person of intellectual and moral eminence, whose parentage is recorded in these pages, has been the product of this law of confluence. ONE parent, however eminent, whether father or mother, cannot produce a gifted heir. As we require both good seed AND good soil to bring forth a great vegetable crop, so to parent an intellectual or moral giant requires superior endowments in BOTH parents.

Much has been said of the necessity of talented MOTHERS to bear gifted sons. Granted that all great men have great mothers; they always have had, always must have, strong-minded FATHER likewise. As no ordinary woman ever bore an extraordinary son, so no common father ever begat an extraordinary son.

Nor is a distinguished parentage alone sufficient; the grand-parentage must likewise be superior, and on both sides. Every intellectual, every moral prodigy, must have, not two parents only, but two DISTINGUISHED parents, and each of these must have two superior parents; so that it takes a confluence of power in FOUR GRAND-PARENTS and TWO PARENTS to produce a son or daughter of true genius. As a John must prepare the way for Christ, so it always has required, always will require, two generations—one to prepare the way, and the other to produce, a distinguished offspring. This also holds true touching age. Daniel Webster's grandfather died aged 83, and was 36 when D. W.'s father was born, and Colonel W. was elderly when D. was born.

But this law is a two-edged sword, and brings forth offspring WORSE than either parent, whenever there is a confluence of propensity. Thus, let two parents possess Amativeness in unusual energy, yet not so large but that both govern it, they are in great danger of entailing on their issue more, relatively, than either parent singly possesses; and hence virtuous, but passionate, parents may have very licentious offspring. I strongly suspect it was the confluence of Amativeness which produced that notorious sinner, Aaron Burr. That the brother of his mother was one of the most libidinous of men has already been shown. This would lead us to suppose that Burr's mother was highly endowed with this faculty, which her higher faculties, however, held in subjection. And this conclusion is strengthened by the fact, which to the author is personally known, that some of the descendants of the sister, who married a Dwight, are strongly given to venereal indulgence. Burr's father, there is every reason to believe, was a man of lust; and it was doubtless this confluence of powerful Amativeness in both parents which produced this master sensualist.

The fact is "known and read of all" that manifest exceptions sometimes occur to our great law that "like begets like"—that the children of two who are respectable, and even religious, are sometimes notorious sinners. This law of confluence shows how such exceptions can occur without any invalidation of the great law of descent. Such apparent exceptions even confirm the law. By inheriting the strongest faculties of BOTH parents collectively, offspring are of course better than either parent where one good quality distinguishes both parents, and worse where any given propensity is powerful in both. Thus F. K., of B., murdered his wife without provocation, and would have wreaked his vengeance on others, but was prevented. Both his parents were violent tempered, yet less so than he was. All his children inherit his ferocity. An aunt asked his eldest boy to get up and make a fire, when he threw a shovelful of coals into her bed.

So when Acquisitiveness, or Secretiveness, or Combativeness, or all three, are so large in both parents that they barely avoid committing open acts of dishonesty, duplicity, or assault, their offspring receive a double portion of the propensity, and perhaps still less of the moral or restraining faculties—which may be rather weak in both—and hence become bad, though their parents are both, nominally, perhaps really, good.

#### THE IMPORTANCE OF THIS LAW.

Mark well the practical warning this law so powerfully enforces. It tells those who have as large Destructiveness, or Combativeness, or Secretiveness, or Acquisitiveness as they can manage, or as little Conscientiousness, or Veneration, or Benevolence, or Causality as barely suffices to keep them from sinking into sin, not to marry those of equal extremes, under the penalty of producing still greater extremes in offspring, so as to destroy the balance, and give the reins to propensity. How many parents, by neglecting this injunction, have planted thorns under their pillow for life, and suffered incalculably in consequence of the depravity of their offspring.

On the other hand, it shows those who choose to avail themselves of its advantage how to render themselves most happy in their offspring, and likewise how to confer on them an order and an amount of endowment—intellectual, moral, musical, mechanical, literary, or even all COMBINED—greater than the world has ever yet beheld. Not only can matrimonial alliances be so formed as to enhance the musical inspiration and capacity of every successive generation as long as time continues; but this faculty can be combined with one, and another, and still another gift, at pleasure. Of this confluence the Hutchinsons furnish an example. Large Tune alone can never make a good musician, but must be aided by an exquisite Temperament, large lungs, great Imitation, Constructiveness, and Ideality, and general power of body and mind. All these conditions combine in this gifted family. They have strong constitutions, inherited from several of their ancestors—most of whom have been long-lived—most exquisite and susceptible temperaments, inherited from their great-grandfather Hastings, increased by combination with the high organisation found in the Leavitts. To this they add very large Ideality, Imitation, and Language, inherited from the Leavitt side, and hence they MAKE POETRY, as well as compose and sing tunes. They likewise inherit large Constructiveness from both father and mother—a faculty indispensable to musical execution. They moreover inherit large Spirituality from their mother and both her parents, and the reform cast of religion from their father, and hence their known radicalism. By forming matrimonial alliances of the right kind, it is in their power to confer on their offspring all that they have inherited, besides adding to them whatever marked characteristics their companions may possess. Or by marrying ordinary consorts, they may render themselves incapable of transmitting their exalted capabilities, and thus, in common with most distinguished personages, have a degenerate issue. And thus of any and all other persons distinguished, no matter for what.

#### APPLICATION OF THESE LAWS.

This subject would hardly be complete without a more specific application of these respective laws to individual cases. Many, convinced of the importance of putting these hereditary principles into practice, anxiously inquire, "What qualities, mental and physical, in a companion, united with mine, will endow my prospective offspring with good bodies, strong minds, and exalted morals? My physiological and phrenological developments being such as they are, what qualities, in a companion, will prevent our offspring from being diseased and vicious on the one hand, and, on the other, impart to them the most favourable physical, intellectual, and moral constitution." Now if we can enable people to apply these principles so as to enable them to select, as matrimonial partners, those best adapted, in connection with the selves, to endow their offspring well, we shall have accomplished immense good.

#### WHAT TEMPERAMENTS SHOULD, AND WHAT SHOULD NOT, UNITE.

Since the mentality of offspring depends mainly upon their cerebral organization, and this upon their physiological organization, the first enquiry respecting a prospective companion should be, "Is his or her TEMPERAMENT adapted to mine?"

Let us see first, who are *not* adapted, conjointly, to produce children endowed with strong and healthy organizations. And, first, two persons subject to the same EXTREMES of temperament should not unite; because the law of confluence, already demonstrated, will produce offspring having still greater extremes: whereas BALANCE

is the great law of perfection and happiness, as shown in "Self Culture;" which the reader will do well to peruse in this connection, as the point discussed is fundamental, and this condition of perfection in offspring peremptory and absolute. Hence two, each of whom have small or weak lungs, should not marry: because their issue will inherit lungs still smaller and weaker, and thus be strongly predisposed to consumption. But those whose lungs are deficient in size or strength, should marry those whose lungs are large and strong, because their issue, being more liable to take on the strong than the weak organs of parents, will be more likely to inherit the strong lungs of the one than the weak ones of the other. Nor have I a doubt but that a full understanding of this whole subject would enable parents, in such cases, to render this result CERTAIN, and thus leave small lungs and all other weaknesses and defects behind; that is, to gather whatever of good both parents possess into the vessels of offspring, but cast all their defects and deformities out of their issue and their descendants.

This law applies equally to all physiological organs and conditions which may be deficient in either parent. For this reason, two, both of whose stomachs, or livers, or muscles, or nerves, &c., are either weak or partially inflamed, or any way diseased, should not unite; but such should select companions of opposite organizations, in order to OFFSET, and thus neutralize, their respective excesses or defects.

#### WHAT PHRENOLOGICAL ORGANS SHOULD, AND WHAT SHOULD NOT, UNITE.

This law applies equally to the phrenological organs. Those should not marry, both of whom are deficient in Conscientiousness, or Reason, or Ideality, or Amativeness, or Benevolence, or any other important organ; because the action of this law would render their issue still more defective in these several respects. This direction is of universal applicability. All defects, physical and mental, in either parent, should be neutralized by a full development of the defective quality in the other.

Yet this offsetting should not be carried to the other extreme. Very great defects should never unite with great opposite extremes. This would be like marrying the lion to the lamb. The union of such extremes nature has taken pains to prevent, by ordaining that those shall not love each other who are opposite in character. Those of a quick, fiery, active, excitable, feverish, impulsive temperament, may marry those whose society and conversation renders them quiet, calm, and ease-loving: but I repeat, in making these offsets, opposite *extremes* should not unite. While the sluggish should not marry the sluggish, lest their offspring should be doubly tame and indolent, nor the extra nervous those equally excitable, lest their offspring should be feeble though precocious: still, extreme opposites should not unite. Those given to extremes should marry those who are free from the extremes. Spare persons should marry those rather full favoured; and those a little fleshy, those rather lean favoured. Nor should those having light complexion, hair, or eyes, &c., marry those equally light; nor yet those very dark; but still those darker than themselves. And thus of size, height, and all other physiological conditions. Yet offspring, one of whose parents has a powerful and rather an animal organization, and the other great nervous susceptibility, a clear mind, fine taste and feelings, often take on the animal power of the one and the mental action of the other, and thus become distinguished. And if this whole matter were duly understood, such unions of extremes might probably be made with great advantage.

But the best unions are those both of whose temperaments are somewhere similar, and WELL BALANCED. If the very small should not marry the small, or the very large the large, or the very tall the spindling, or the very active the fiery, or the very fleshy those who are fat, &c., it does not follow that those who are average in these respects should marry either extreme. Those who are medium, or about right in any respect, should marry those somewhat similarly constituted.

This law applies equally to the various phrenological organs and characteristics. Thus, persons of extremely large Cautiousness should not unite with those of the same extreme, lest their offspring should be still more timid; nor should they unite with those who have this organ extremely small; but with such as have it about medium, so as to equalize the extreme. And thus of all the other faculties.

Nor should those having two or more of the propensities, the combination of which forms a strong vicious tendency, unite, lest their children should inherit this unfortunate union: especially should such unions be avoided in case any of the restraining moral organs are rather weak in both, lest their offspring should be left still weaker in these respects; but a judicious offsetting should be made. I say

*judicious*, because otherwise the result may be disastrous. The author knew one in whom Acquisitiveness was small, who married one in whom it was very large, and this difference first alienated their affections, and ultimately produced a final separation.

Suffice it to say that the laws here illustrated are general in their application, and certain in their results; yet, to follow them out in all their detailed and almost infinite ramifications, as applicable to various individuals, is unnecessary; because after knowing their own specific organisations, readers can apply the principles here explained to their own individual cases. This subject, of course, requires study; but the results will well repay an expenditure of YEARS in obtaining the required knowledge.

If the question should here be asked, Which shall take precedence, superior connubial or excellent parental qualifications? the answer is, that the two are generally united. Those who are adapted to render each other happy as companions are generally adapted to each other for becoming parents. As parentage is the only ultimate object of marriage, it might reasonably be inferred that those who are best calculated for each other in either respect are therefore adapted to each other in both. Nature never wars with herself: on the contrary, every one of her functions and operations promote one another. This, her settled and universal policy, teaches us that those whose respective qualities and characteristics prepare them to love each other the best as husbands and wives are thereby reciprocally adapted to become parents of better children than could be produced by their union with others. In short, those unions most promotive of connubial love are therein the most promotive of the physical and mental endowment of their joint offspring. Any other supposition charges God foolishly, and accuses Nature of warring with herself.

One most important direction should be given in vigorous practice by those, any of whose physiological or phrenological organs are weak, namely, to CULTIVATE and strengthen them. Since the increase of the organs in parents is transmitted to offspring, how important that those defective organs be improved in parents, so as to leave their offspring less defective than themselves.

#### PARENTS CAN TRANSMIT THEIR POWERS INCREASED.

The fact that all our faculties, physical and mental, can be increased by habitual EXERCISE, will be found fully established in "Education and Self-Improvement," of which Volume I., on "Physiology," shows how to improve the various physical powers; Vol. II., on "Self-Culture," teaches how to augment and restrain all the propensities and moral affections; and Vol. III., on "Memory," points out the means of strengthening the intellectual faculties. The necessity of some law which shall so modify the great hereditary principle, is apparent; otherwise, every human being must have been exactly like its parents, and they like their parents. This would have prevented all that vast range of improvement now consequent on different minds running on and excelling in different lines. The evils of sameness would be absolutely intolerable. From a monotony thus every way oppressive, nature kindly relieves us by allowing different climates, educations, occupations, etc., together with the various states of the mother's physiology and mentality prior to the birth of her offspring, to modify this great law, "like begets like," and produces different characteristics among men. One mode of producing this required diversity, is this law of the INCREASE of qualities by exercise in parents, and the TRANSMISSION of such increase. An illustration:—

As, in raising water by means of the pump, one stroke after another raises it higher and still higher, while the valve catches and holds it, so one parent, endowed with only ordinary musical genius, can increase that gift by exercise, and transmit it thus increased to his offspring. They can still further increase it by cultivation, and thus endow their offspring with natural musical genius far superior to that they inherited, and so on for ever. Or, to carry out our figure, we can raise any or all our powers by cultivation, just as we raise water by one stroke of the pump, and then the valve of parentage transmits them thus raised to posterity. The next generation can likewise re-increase them by culture, and then parentage transfers both the first and second increase to posterity, to be still farther re-augmented and again transmitted by every generation who choose to avail themselves of the advantages proffered by this infinitely wise provision. Many illustrations of the value and power of this principle are incidentally scattered throughout this work. Of this the singing talents of the two singing children of the Detroit music-teacher; the increase of mathematical talents in Enoch Lewis over that of his mother, and of his son over him; the increase



of tune in Moses Cheney over his parents, in consequence of his mother's singing so much, and many kindred cases, are examples. This is of course true of every human power and faculty. Nor is there any limit to that augmentation of human capability, excellence, and happiness proffered to man by this law.

An example drawn from the pomological world will best illustrate this whole matter. Suppose the seed of a good sweet apple, to have been fructified by the pollen of a rich tart apple, it will produce a tree which will bear neither the sweet apple of the one parent, nor the sour one of the other, but a compound of the two, perhaps combining the excellencies of both and the defects of neither, or perhaps the defects of both, but at all events a new variety, differing from all other apples which ever existed; because its parentage differed from all others. For a like reason, other seeds out of the same apple are likely to reproduce each another variety, and hence that almost infinite diversity and astonishingly rapid improvement of fruits now in progress in all their kinds, cognizable to our own tastes. Nor is the end yet—only the smallest beginning. As all these new and exceedingly rich-flavoured varieties of the apple, peach, plum, cherry, etc., which now regale our palates, sprang originally from varieties altogether intolerable to the taste, just by the application of this law in conjunction with that of cultivation; so from these fine varieties, all coming time will continue to reproduce new and re-improved kinds, each differing from, and many superior to, all other varieties, till our descendants will luxuriate on those incomparably more delicious than anything we now enjoy, just as we feast upon those superior to any tasted by our fathers. The means for securing this diversity, and consequent improvement, are incorporated into the very nature of their production; nor has it any limit.

So with man. Propagated by a like union of two parents, both of which differ from each other, and from the whole human family, of course their issue must be a compound of the qualities of both, and consequently unlike any other human being. For example: The first child ever born of a Caucasian and African parentage differed in shape, colour, physiology, and mentality, from all other human beings. The intermarriage of this issue with either race must of course parent a cross-breed, unlike either parent, and differing from both races, and from all who ever have been, are, or ever will be. And thus of every additional intermarriage, and of every inter-propagation of every race, every nation, tribe, family, and married pair, from the beginning to the end of time!

This diversification often proceeds on a national scale, and for many generations, as in the cases of full-blooded and intermediate-blooded Persians marrying Caucasian wives; the overrunning and intermarriage of the Romans, Normans, Danes, and others, with the English; and also the native Picts, Irish, and English, with each other; the creole system now proceeding on so large and diversified a scale throughout the new world, by the inter-propagation of the French and English at the north, the Spanish and Indians at the south, and the Anglo-Americans and Africans and mulattoes in the States. The conquest of India and China by the English, and their consequent inter-propagation, will produce physiologies and mental characteristics hitherto unknown, which, instead of dying with those who originated them, will both live and spread throughout the countless millions of their descendants, and likewise form new bases in every one of them, for the reproduction of other and still other characteristics now unknown and inconceivable. This law, besides rendering every human being unlike every other, will continue to re-combine all these new characteristics with other new ones, and thereby extend this diversity and consequent improvement illimitably, and for ever!

Not that new primitive faculties will thus be created, but new combinations of existing ones, together with new temperaments, and consequently new traits of intellect and disposition, and therefore new virtues and vices, as well as beauties and deformities of body and mind before unknown. Indeed, as no two members of the human family are exactly alike in size, countenance, shape, motion, etc.—a diversity produced by this very law under discussion—so no two now alive, or who ever have existed, or may exist, have been, or will be exactly like any other one who ever has been, is, or ever will be, in mind and character.

The momentous importance of this law requires its full elucidation by a few examples. Take its application to diseases. Previous pages have shown that offspring often inherit one disease from one parent or grandparent; another from another; and another from a third, etc. Of course, the union of these diseases forms a new physiological and pathological compound, along with a new disease. The fact that new diseases frequently make their appearance is apparent to every physician; the cause is here apparent—namely, this union of certain diseases in parents produces new diseased

combinations in their offspring, often of peculiar aggravation, and wholly incurable. And there is a certainty that, as long as men continue to violate the laws of health, and thus contract various diseases, so long the union of these diseases in parentage will develop other forms of disease now unknown, the re-combinations of which will continue to reproduce others, and these others still, to torture the living, and multiply the dead. What end is there to facts illustrative of this point, yet assuming, in detail, innumerable amplifications and ramifications as they flow on to unborn generations? Nor is there any salvation from these awful results, but in prospective parents obeying the physical laws, or else in the extinction of those families thus loaded with disease, according to a wise provision already specified.

This law applies equally to mental diseases, vices included. Human depravity has not yet reached its acme, nor assumed its last hideous variety or monstrosity. The marriage of two eminently depraved in different respects, besides rendering their offspring pre-eminently wicked develops a new kind of depravity, just as the commingling of two colours produces a third, unlike either, yet compounded of the qualities of both. Thus, where one parent is licentious and the other deceitful, or the one proud and the other revengeful, their offspring, besides inheriting both forms of vice separately, like Patty Cannon, will form new compounds of these and other depraved elements which the marriage of these offspring with others differently depraved—and “birds of a feather flock together”—will still farther re-combine with other new forms of wicked propensity, only to disfigure their posterity with other and still other forms of depravity now unknown and inconceivable, and more aggravated perhaps than any with which our race is now cursed.

Fortunately, however, here also death exterminates the issue of aggravated sinners, in like manner as it does the offspring of complicated diseases, and thus arrests the transmission of results so soul-sickening. Virtue and longevity are twin sisters; so are likewise vice and premature death. “The wicked shall not live out half their days,” nor their seed remain to curse mankind. An early grave is the penalty affixed to the violation of the MENTAL as well as physical laws. Infinitely better that “the wicked die before their time,” and “their seed perish from the earth,” than live to corrupt mankind by “evil communications,” and to transmit their sinfulness and consequent suffering, diversified and augmented, throughout all coming time. Behold an arrangement infinitely wise, infinitely benevolent! Let, then, the wicked die, and their race perish with them; but let those who would live, and leave a happy posterity upon the earth, both CULTIVATE GOODNESS themselves, and also select as parental partners those who are moral in conduct, and descended from a highly virtuous parentage. Be not united to any whose near relatives are given to any moral delinquency or deformity.

Parents, give ear to one solemn admonition enforced by our subject. You are often distressed beyond measure by one or another manifestation of depravity in your children, for which you chastise them repeatedly with many stripes. Look into the interior of your own souls, and those of your wife or husband, and see if you do not find those depraved elements, the blending of which thus afflicts yourselves and curses your offspring. You may, perhaps, find that you are to some extent the cause of your children's vices, and that they are more sinned against than sinning. You may find that you deserve the stripes inflicted on them, and that they are entitled to PITY instead of punishment. And many of us may perhaps trace *our* “easily besetting sins” to *our* parents.

Not, however, that this justifies our errors, because by the law of “INCREASE BY EXERCISE, and DECREASE BY INACTION,” already alluded to, these depraved tendencies may be overcome. All good predispositions should be augmented, all bad ones diminished; and the stronger the latter the greater efforts should be put forth to effect this end. But to proceed:

The confluence of this principle of illimitable combination with this law of improvement by cultivation, inimitably beautiful and perfect as are all nature's works, constitutes the “top stone” of human hope and of Divine wisdom and goodness. What is more delightful to the philosopher and the philanthropist than to contemplate these provisions of nature separately? Their united operation may fairly be styled the great deliverance of our race from its present low estate, and the grand instrumentality for placing it on its exalted pinnacle of prospective enjoyment. A few examples:—

Longevity, and its conditions, are transmissible. They are also capable of increase by a rigid observance of the laws of health. Let, then, two unite in marriage, each of whose ancestors lived to be 110—an age often attained—and of course themselves

capable, by living as their ancestors did, of attaining an equal age. But these ancestors became thus aged in spite of numerous and aggravated violations of the laws of health, because wholly ignorant of physiology. Let their offspring study and obey these laws, and they can attain 130 with less difficulty than their ancestors did 110, and impart to their offspring the strength of constitution which shall capacitate them to attain a like age. Then let the third generation still farther improve their original powers of life, and also marry companions who have had a like parentage, and they may live to 150, and parent children equally tenacious of life. Let their children pursue, and marry those who have pursued, a similar course, and thus increase their already powerful hold on life, and they can live still longer, and also endow their offspring with capacity to live to a still greater age. As, in case the children of the rich should intermarry only with the wealthy, and thus re-augment their patrimony, and moreover still farther amass fortunes by vigorous and judicious efforts, the riches of their descendants could be illimitably enhanced; so the mere marriage of the long-lived with the long-lived will increase and re-increase the age of every succeeding generation, and such marriage, conjoined with a rigid observance of the laws of health, will redouble the tenacity of life more and more till the strongest of our race will be weak, and the oldest mere babes, compared with those who might be made to inherit the earth. In fact, no bounds can be set which man cannot, by the right and long-continued use of these means, pass. Our race is yet infantile in everything but depravity. Inconceivable is the range of human improvement proffered by this hereditary law. Reader, are we on doubtful ground? Is not longevity transmissible? Does not the union of two long-lived parents produce offspring still longer-lived? And cannot this tenacity of life be increased by a full knowledge and rigid observance of the physical laws? Let "Physiology, Animal and Mental," answer. Then what is to prevent mankind from living to be as old as Methuselah? What man *has* been, man *can* be.\* Who hath set bounds to the nature of man which cannot be passed? Shall space be illimitable, and shall not human progression be equally so? Is man doomed to die just as he begins to live? "My People shall not plant and another eat thereof. They shall not build and another inhabit." "As the days of a TREE, shall be the days of my people, and mine elect"—those who obey all my laws—"shall LONG enjoy the work of their hands." This prophecy will yet be literally fulfilled by the action of these two laws under discussion. These conditions of marriage and observing the laws of health, men *will* understand and fulfil, and when they do so, "The child shall lie down an HUNDRED YEARS OLD," and if those a hundred years old are to be mere children, pray how old will their aged men and women be? As old as trees! This is no hyperbole. The seeds of all this, and "even greater things than these," are planted in the primitive constitution of humanity, and will eventually grow and bear fruit to the glory of God in the infinite happiness of his children.

This law is equally applicable to the increase of beauty. The marriage of a most beautiful woman with a truly magnificent man, if both obey the physical laws, produces a still higher order of beauty in their offspring. These children can re-augment their beauty by a variety of means, especially by the improvement of health and moral excellence, and, by intermarrying with others endowed with other touches of beauty, transmit to their offspring not only a still higher order of beauty, but new VARIETIES AND COMBINATIONS of beautiful elements, to be again transmitted, re-augmented, re-combined, to generation after generation for ever, till those most beautiful now would be comparatively homely, and till human vision shall be regaled with almost angelic loveliness!

This principle applies equally to strength of muscle, power of heart and lungs, and to every conceivable condition of physical excellence and physiological perfection. Suppose, for example, the Caucasian race to possess one remarkable condition of physical power or perfection—and they are endowed with several—and the Mongolian variety another. Their extensive intermarriage will retain them both, and also develop one or more NEW physical varieties now unknown, which the hereditary laws expounded in this work will transmit, to be re-combined, and our race re-perfected, as long as time continues, and till the human physiology shall be almost infinitely perfected, in every conceivable respect.

But this combination of these laws will not stop with perfecting man physically. It applies with still greater range and power to the perfection of the human MIND. Indeed the physiology cannot be improved without thereby improving the brain, and

\* We do not think men ever *did* live to be so old.—ED.

of course its product, the mind, because of the perfect inter-relation of the three. As the entire body and all its complicated contrivances were created simply as instrumentalities by which to manifest the SOUL, all physical improvements must enhance the mental capacities and enjoyments—"the chief end of man." And since its faculties are so numerous and its capabilities so multifarious, its range of scale of perfectibility is correspondingly extensive and diversified. To each of these this all-perfecting law applies with augmented power. As there is no end to the number and variety of the mental functions and characteristics possible, so each of these can be improved and re-improved illimitably by the conjoint application of these two laws. A few illustrations:—

We have already seen several lingual rivers produce a Patrick Henry, with his unrivalled powers of eloquence. Suppose he had married a daughter of Jonathan Edwards, endowed with all the intellectual and moral powers and excellences of both the lines of her illustrious parentage; the union of such gigantic powers of intellect, with such exalted moral sentiments, conjoined with all the eloquence of a Henry, must, in accordance with those hereditary laws already demonstrated in this volume, have produced an issue endowed with far greater and more diversified gifts than any ever yet conferred on mortal man! And even these only intellectual and moral BABES, compared with what the right and long-continued application of this law is capable of producing!

Suppose, again, that these sons and daughters of genius and moral worth, should marry an issue of Franklin, endowed with all the intellectual might of this prince of modern statesmen and philosophers, and suppose, moreover, that Franklin had married one every way his equal, so that their issue had retained all his powers, and even re-increased and diversified them, the world would have beheld a race of giants in intellect, united with moral virtues more illustrious than mortals ever yet experienced. Franklin's transcendent genius was crippled by his inability to speak, and Henry's by his incapacity to write, but, since progeny take on the strongest faculties of BOTH parents, the issue of this union of Henry's eloquence with Franklin's philosophy, adorned, as above supposed, with the high moral excellence of an Edwards, and re-increased by confluence with his giant mind, would have clothed even more than a Franklin's thought, with more than a Henry's transcendent eloquence! And all this sanctified by a proportionably high order of moral excellence, and expended in urging forward great and good works of human improvement! What throngs would press around such apostles whenever they should open their mouths, chained and charmed by their eloquence, instructed by their wisdom, and almost transformed by their moral appeals! Mortal ears were never yet saluted by such bursts of eloquence, nor human souls ravished by such heavenly-minded aspirations!

Suppose this issue, retaining every excellence of every line into which their ancestry had intermarried, to unite their diversified and transcendent gifts with the musical powers of the Hutchinsons, and their issue to add, by a well-concerted series of inter-marriages, with other lines remarkable for other physical, and intellectual, and moral powers, capacity to capacity, virtue to virtue, at the same time each generation redoubling them all, both by self-cultivation, and by augmenting power by the union of two strong faculties in parents, "Behold, O heavens, and be astonished, O earth," in view of the almost angelic capacities and virtues of these veritable "sons and daughters of the Lord Almighty!"

And all this only the beginning of those endowments of which humanity is capable, AND WHICH MAN WILL YET ATTAIN! God did not create our race for naught, nor will he allow it always to remain what it has thus far been. The contrivances and functions of the human body—how efficient, how wonderful! Those of the mind—how much more beautiful and even God-like! The human soul—the masterpiece of divine invention and execution! Shall this greatest work of God continue to prove as abortive as it now is and always has been? Did He expend His wisdom and power to produce a work thus marred throughout with all the physical "ills that flesh is heir to," and all the hideous moral deformities now so rife? Granted that man is left to his own choice between virtue and happiness on the one hand, and vice and wretchedness on the other, shall the PRACTICAL WORKINGS of God's crowning piece of workmanship continue for ever thus to disgrace its Architect? No; He will not suffer the work of His hands thus to come to naught. No; thank God! These two mighty moral levers under discussion will surely raise it up out of the mire, and bear it aloft far beyond "what eye hath seen, or ear heard, or it hath entered into the heart of man to conceive." Are the principles of this volume fables? What one has not been DEMONSTRATED to be an ORDINANCE OF NATURE? Has a single point been left doubtful?

And are not these perfecting results the legitimate and NECESSARY products of these laws? Review the ground previously surveyed, ye who question these inferences, or even think them over-rated. Re-canvass every point adduced. Re-test all in the crucible of FACT. We did not dwell thus long on previous positions for their own sakes merely, but mainly to lay foundation stones on which to erect this glorious superstructure. These conclusions are SURE. Even without any specific application on our part, they still go on to work out these man-perfecting results. See what they have already done in the spontaneous production of Bacons, Franklins, Henrys, and a host of other stars in the firmament of humanity. And will they stop here? Will not republicanism give them a new and powerful impetus? Left to themselves, they will produce as time rolls on all we have supposed.

But they will NOT be left to themselves. Principles like these are too apparent not to be perceived, and too momentously important not to be seized upon and carried out in practice. We live in a utilitarian age—an age which will not suffer SUCH mines of human happiness to remain long unworked. Reader, if *you* do not apply these laws, *others* will. A generation or two may come and go before a knowledge of them shall have become diffused, and their importance and their practicability fully appreciated, but the time WILL come—is even now at the door—when matrimonial candidates will not blindly leap into the dark, but when a scrutinizing canvass will be instituted into the PARENTAL as well as matrimonial excellences and defects of every prospective companion. Nor, when instituted, will the issue be doubtful. If a man cannot tell beforehand what kind of a prospective mother this and that young woman will make, and if a woman cannot predict with certainty what sort of a father this and that man will be, and even what kind of children he or she will parent—whether they will be healthy or sickly; and if the latter, to what diseases predisposed; and also whether they will be bright or stupid, and for what mental characteristics they will be remarkable, and in what deficient—it is simply because they do not know how to tell what might be told with ease and certainty. Show me a man or woman, and I will tell for certain what kind of a father or mother they will make; or show me two parents, and I will tell you the leading characteristic of their offspring. Why not? Are not the principles developed in this volume infallible guides, and the necessary data easily observable? They can be easily and certainly applied to longevity, consumption, etc., and with equal correctness to every form of disease, every physical defect, and every physiological excellence. And by the aid of phrenological science, they are easily and surely applicable to all the mental characteristics. To ascertain what cerebral DEVELOPMENTS, and of course mental characteristics, predominate or are deficient in given individuals, is perfectly easy to the Phrenologist. Of course, then, he can tell, from this data, the characteristics of their prospective children; and by observing both prospective parents, he can tell what phreological developments and moral characteristics their issue will possess, almost as well before the latter see the light, as after they arrive at maturity. Nor will knowledge so infinitely valuable as this long remain hidden or unapplied. Improvement is the watchword of our age, and shall SUCH capabilities of augmenting human happiness and perfection be long concealed under the bushel of neglect? Shall men apply these laws to the improvement of stock so advantageously, and long neglect to apply them to HUMAN perfection? Be entreated, O reader, to seize upon this treasure, and both apply it to the perfection of your own offspring, and persuade others to “go and do likewise;” for, unlike buried gold, where, the more there is taken, the less is left; the more this mine of human improvement is worked, the greater will be its yield, and the greater the number of those who can enjoy and diffuse its exhaustless mental riches.

Men will not long prosecute education as vigorously as now without going further back, and improving the original stock of humanity. They will see that the same educational labours bestowed on children highly endowed by nature will produce as much greater harvests of intellectuality and morality as the rich prairie does more than the barren heath. Education can never CREATE talents, but only develop what nature has furnished to her hands. It can never make a sap-head a Bacon, but only POLISH the marble created by parentage. Man will soon see and know, that to “make a silk purse,” they must have silken materials to begin with. Parents dearly LOVE their offspring, and intensely desire their improvement. What emotion is stronger? What string of reform can be pulled with equal effect? What equally gain their ear and reach their conduct? This RULINO passion will virtually COMPEL them to learn and apply these laws of hereditary descent to the production of as perfect specimens of humanity as possible, that education may produce its richest possible yields, and gratify to the fullest extent their parental ambition. Would to God I

could live to see the glorious day when these perfecting principles shall be put in diversified and successful practice. I should then see my race regenerated—delivered from those physical and moral maladies which now crush it into the mire of depravity, and torture it with suffering. But since I cannot, let it be my humble, happy lot, to lay the axe of reform at the ROOT of the trees of vice and misery, and plant in their stead those of human perfection and happiness, by lecturing and writing on the means of improving the STOCK of humanity—of sowing the SEEDS of virtue instead of depravity in the PRIMITIVE CONSTITUTION of mankind. Let me sound the tocsin of alarm in the ears of parents, and warn them that their sinful indulgences, besides corrupting themselves, transmit depraved dispositions to those they most dearly love, which mar and curse them for life; while by the right application of these laws, they can just as well parent offspring endowed with superior temperaments, diversified and powerful intellectual capacities, and transcendent moral affections. Let others labour hard and accomplish little, in other fields of reform; but let me show my race how to perfect the GERM of humanity. Other efforts at reform will do good, though they only lop off a few branches of the great tree of sin and suffering; while this lays the axe at its ROOT, by showing parents how to cast their offspring in the primitive mould of goodness and greatness. That early impressions are deeper and more controlling than subsequent ones is generally conceded. This principle applies pre-eminently to the FIRST, the CREATING impress. This impress I would fain show my fellow-men how to stamp in the best possible manner. And if I do not live to see my race regenerated by the application of these laws, others will. I may die before the seed thus sown germinates, but it will grow till it becomes a great tree, and overshadows the earth. The study of these hereditary laws is yet to become one of the GREAT studies, and their application one of the great labours of man. Helpers will be raised up. This kind of knowledge will be increased. This great work will progress, and I shall behold it—perhaps from afar.

A brighter day will soon dawn on man. The day-star of promise is just rising above the mountains, and peering through the trees. That star consists—not in any one of our modern discoveries in science, or improvements in mechanics and the arts—not in building churches and compassing sea and land to make religious proselytes—not in the temperance reform, or the moral reform, or any other particular philanthropic movement—but in the attention just beginning to be paid to HEREDITARY influences. The momentous destinies which throng it are just beginning, like distant thunder, to break upon the human ear. This sound will wax louder and louder, till its deafening roar shall wake up the whole race, and regenerate mankind in every conceivable respect. Its interests are PARAMOUNT, and will soon be so regarded. Men are just beginning to inquire, what kind of CHILDREN will this one and that produce? And they will soon learn, by the application of these laws, so to regulate their matrimonial choice, as to produce offspring endowed with whatever qualities may be desired. Then will a new order of being people the earth—a race endowed by nature with all that is noble, great and good in man; all that is virtuous, lovely, and exquisitely perfect in woman, marred with few defects, enfeebled by few if any diseases, defaced by few moral blemishes, and corrupted by no vices. Then, but not till then, will the sun of millennial glory and happiness rise upon our world, and shine in all its morning beauty and meridian effulgence. Then shall God be glorified in the holiness and happiness of his creatures, and earth become a paradise!

#### CONCLUDING APPEAL.

And now, prospective parents, be entreated to pause and consider this whole subject. Does it not commend itself to your investigation and application? And is it not the imperious DUTY of every prospective parent to study and apply it? As our possession of eyes, muscles, reason, speech, &c., impose on us a solemn obligation to use them, so nature's proffer of such exalted blessings renders us GUILTY if we neglect them. Are the temporal and eternal destinies of your children so trifling that you can afford to neglect them? Though you may "neither fear God nor regard man," yet be entreated to regard "the bone of your bone and flesh of your flesh;" the destinies of your own dear prospective children are under your own control. You *must* control them. Behold how happy or how miserable you are compelled to render them. How then can you look them in the face, if you entail evil passions or physical maladies on them? And how infinitely valuable the patrimony of high intellectual and moral endowments, not to them merely, but to your children's children, to the end of time. "Multitudes which no man can number," likely to issue from your

loins, may rise up to call you blessed or accursed, according to your choice of a joint parental partner.

Nor do the destinies of your descendants alone hang suspended on this choice, but also your own. None but parents can form any adequate conception of the extent to which their enjoyments and sufferings are influenced by the health or sickness, the virtues or vices of their offspring. What anguish and what watching round their sick bed! What agony consequent on their death, or on seeing them become wicked! And what thrills of joy equal those consequent on seeing the idols of our parental love growing up healthy, talented, and lovely, always meeting you with smiles of love and kisses of affection—always amiable and universally beloved, endowed with exalted capabilities and crowned with heavenly virtues. How little, ye matrimonial candidates, do you realise, how much more happy you, they, and all around will be rendered, by their goodness.

Oh, consider your momentous responsibilities. In proportion as becoming parents affects your happiness for life should the responsibility be regarded with deep solemnity. Yet how many form matrimonial alliances as thoughtlessly as though they were merely pastimes. O, thoughtless youth, be implored not to make light of these fearful realities. Examine beforehand what influences the partner of your choice must exert upon the children of your affection. What RIGHT have you to entail painful diseases or more painful vices upon them? No more than to mutilate their bodies or burn off their limbs. Since inflicting canseless suffering on them after they are born is wicked, how much more so to entail upon them, along with their existence, the most aggravated miseries? If "he that provideth not for his own household is worse than an infidel," how much more wicked to entail diseases and vices upon them, and how imperious the duty of parents to employ all the means put into their hands of endowing them with every possible condition of perfection and enjoyment? Are those guilty who usher human beings into the world without providing them with food and raiment, and are they not far more so who bring forth those feeble in body and poorly endowed in mind? Are not parental obligations as binding before birth as after? Strange that we should think so much of our children after birth, and so little before—that we should labour so hard to cultivate poor soil, when a tithé of the labour, applied to parentage, would produce infinitely more. True, this ought to be done, but that ought not to be left undone. We should produce splendid children by making a right choice in the first place, and then follow up with energetic educational efforts. The original bias or impress derived from parents is the root and trunk, and these are as the parentage. Make THEM what you wish your offspring to be, and educational efforts will produce a hundred-fold more and choicer fruit than if the parentage be defective or bad. Nor are those worthy of gifted offspring who neglect to avail themselves of this wise and beneficent provision of nature. Nor will they have them, unless they chance to stumble on them. Shall the pedigree of a horse be required to have been extraordinary for beauty, speed, strength, bottom, action, and much more, before allowed to sire a farm horse? and shall no inquiries be instituted concerning the lineage of the prospective father or mother of your own dearly beloved CHILDREN, as well as life companion? This is to be peuny wise and pound foolish indeed; it is wisdom in trifles, but consummate folly in matters of eternal moment. True, a fine horse is valuable—worth all the pains taken to produce it—but how infinitely more so a splendid child! Shall, then, no pains be taken with *its* parentage? Candidates for matrimony enquire most rigidly concerning the paltry patrimony of this one and that, and choose the richest they can obtain, though most defective as companions, and utterly incapable of parenting decent children, and even certain to entail consumption or insanity, or other diseases, or even deceit, theft, vindictiveness, licentiousness, and other aggravated forms of depravity, PROVIDED they can get a few DOLLARS by the financial operation; yet treat with cold neglect those who are in every way capacitated to parent offspring of a high order of beauty, strength, talents, and moral excellence! Those from a diseased, miserly, bad-tempered stock are taken quite as quickly—nay, more so, for no attention is paid to this matter—as those whose ancestors are remarkable for longevity, talents, and moral worth! Strange, but true! O, when will men learn practical wisdom in these eventful matters? Should not ministers, the acknowledged expounders of duty, preach on this subject? They preach on the moral *training* of children, then why not on what so infinitely facilitates such training? Do they now preach anything more important intrinsically, or half as promotive even of morals and religion? As the people look to them for their whole duty, if they should expound hereditary laws and facts, and admonish and instruct the young with all the solemnity and unction of their exalted

station, besides wielding their tremendous influence with most beneficial results, they would soon effectually remodel society, almost banish vice and crime, and infinitely adorn and bless mankind.

And are not these parental duties not only moral duties but among the highest obligations we owe to our offspring and our God? How can we "love the Lord our God with all our might, mind, soul, and strength" while we entail on his image physical maladies and moral blemishes and disorders? How "love our neighbours as ourselves"—and what neighbours nearer than our own offspring?—while we enfeeble their bodies and blight their souls? Nor can clergymen "declare the whole council of God" without enforcing on parents this their highest grade of moral obligation. Yet, alas! they will probably be the very last even to admit them, and of course much less to proclaim them.

Then who will mount this breach for God and humanity? Doctors should, but are too intent on *curing* diseases to *prevent* them. Lawyers, likewise, are too busy taking fees for telling lies, and scrambling over their fellow men after pelf, to give such subjects a moment's attention. Merchants are too greedy after copper, the rich in playing the fool, young women in catching beaux, and married women in cooking dinners and tending children, to heed this subject. But there is a select band, a chosen few, who will blow the trumpet of reform, and distribute this kind of knowledge. To such this work is commended. Take and urge it upon married and single, and especially upon young women. Warn and remonstrate with them not to deck their persons attractively, nor cast looks of love, till they have learned their duties as prospective mothers, or learned how to parent superior offspring. Thoroughly imbue every matrimonial candidate with the cardinal principles of hereditary descent embodied in this work, and rouse all to the importance of learning and fulfilling the laws of transmission. Teach mankind how to parent, and then how to educate, humanity, and you transform the world! Then shall the garden of Eden cover the whole earth, and all who inhabit it be holy and happy! The current of human capability and progression will widen and deepen as it flows on from generation to generation, irrigating the valley of time as it meanders through it, and pouring exhaustless blessings upon all mankind, till it empties itself into the boundless ocean of infinite perfection and eternal bliss. O merciful Father, open thou the eyes of thy children, to see these things in their true light, and quicken their consciences, till they shall dare to slumber no longer on the verge of such momentous consequences for evil, and so exalted a means of good. And may this work go forth to promote so glorious an end!

But parental duty is not complete when the right companion is chosen. Much, very much depends on the particular states of the minds and bodies of these parents at the time they stamp the impress of being and character of their offspring. This subject the author has deemed so important that he has devoted an entire volume to its consideration, entitled "Love and Parentage." Those, therefore, who derive interest or profit from the perusal of the subject of this volume will derive still more from its continuance in that.

## APPENDIX.

### "THE FAMILY BIOGRAPHER AND GENEALOGICAL RECORDER."

THE following prospectus of a work by the author was written in 1843, but has been unpublished in his desk because he could not spare time and strength to carry it into execution, and is now published, not because he contemplates its immediate execution, but to call attention to the importance of preserving and recording this species of history.

"Biography is more interesting and instructive than any other species of reading, because

'The greatest study of mankind is man.'

and because it constitutes the cream of history. The Natural History of animals is a pleasant and profitable study, but that of the characteristics, achievements, attainments, and virtues of nations and individuals is as much more so, as its subject—man—exceeds the brute. What else can teach lessons equally instructing or profitable to all, and especially to the young?



“Since individual and national history is thus useful, how much more so that of **FAMILIES**, from generation to generation, and throughout all their branches and individuals? Hence most biographies open with some account of the parents of their heroes. How much then would a short history of the grand and great-grandparent, and of other blood relations, add to its interest and profit? And what could equal, in thrilling interest and useful knowledge, short biographies of many or most of the individuals of remarkable families, in all their branches? What could equal, in value, sketches of the ancestors and relatives of the Franklin, Edwards, Henry, Webster, Clay, and other families, merely as a matter of knowledge? All facts are full of interest and instruction. Behold the almost boundless power exerted by Washingtonian biography over the public mind! Like a fire on the prairie, it swept all before it, simply because **PERSONAL NARRATIVES** compel admission into the human mind, where nothing else can penetrate. Such is the nature of mind. **STORIES** ‘tell the story.’ Other genealogical works record the **NAMES** of ancestors and descendants, but we require also to know **WHAT THEY DID AND WERE**.

“Now add **SCIENCE** to fact—illustrate general **LAWS** and great moral principles by these histories of individuals—and no reading, no species of knowledge, would compare with it in value and instruction. Besides the **MORAL** of biography is of the very highest order. And then the combination of all these conditions of interest with those of **HEREDITARY DESCENT**, and their application to human improvement, would constitute the very climax of utility and value, which would be enhanced by the fact that all this anecdote, science, and moral relates to **US AND OURS**. Mankind have a sort of **PASSION** to know all about their ancestors and relatives.

“To secure all these most desirable ends by one instrumentality, it is proposed to establish a periodical which shall embrace short biographies of persons and families any way remarkable for any thing and every thing, and also of their ancestors and all collateral branches, as far as they can be traced, including the bearing of all these facts on transmission, especially as illustrating the various laws of combination, improvement, deterioration, &c., &c. The record of current marriages, births, and deaths, in a permanent form, for future reference, will, of course, be one of its leading features, so that it will be designed to be a **NATIONAL** record of family and individual statistics—confessedly a very great desideratum.

“Again, our nation is cosmopolitan. Families are ‘moving’ and removing from all parts to all parts, by which all attempts at genealogical records are rendered abortive. This evil the Family Biographer will partially obviate by containing tables which can be filled up, one by one branch, and others by other branches, the compilation of which would give a vast amount of most useful and instructive genealogical statistics. This would also be putting this species of knowledge in a **PERMANENT** and tangible form for future reference.

“The memories of our old people contain vast stories of most interesting and invaluable facts and anecdotes of this class, which, unless rescued from oblivion, must die with them. Such rescue this work will greatly promote by furnishing a place and also facilities for such record, and by keeping this subject perpetually before the people.

“There is also required a central depôt—a national focus—to which all can communicate, and from which all can obtain a knowledge of their respective ancestors and descendants, and in which can be recorded that vast range of hereditary facts perpetually transpiring all over the world. Nor will mothers in their maternal capacity be overlooked, or directions touching the choice of suitable parental partners be omitted. In short, this most important subject is designed to be treated so as to be of great **PRACTICAL** advantage to the entire community.”



# FAMILIAR LESSONS ON PHYSIOLOGY.

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## CHAPTER I.

### DIGESTION.

1. CHILDREN, I wish to converse with you for a little while, if you will be very attentive, and listen to me. You know what I mean, I suppose, by conversing; for you all talk and chatter from morning till night. Conversing is talking.

2. *You* are the talkers then; generally you do all the conversing; but at the present time *I* wish to do most of the talking myself.

3. Did you ever hear, children, of Physiology and Phrenology?

"No," responded little Clara, "*I* never did."

Clara, do you like to be sick? Do you like to have your head and body filled with pain, and to be obliged to lie on your bed all day long?

"Oh, no," she answered quickly.

4. Well, children, when I say I will tell you what Physiology is, I mean that I shall explain to you why it is that we are sometimes sick—why it is that we can walk. I shall tell you about the bones, the teeth, the skin; what it is that makes our bodies increase in size; besides many other interesting things that you will be very glad to know.

5. When you purchase a toy, you are very anxious to know why it will make a noise by turning a crank, or why the little china dog will bark, or the wooden milkmaid churn. You are sometimes so inquisitive about these things, that you often pull very handsome toys to pieces to see what it is that seems to give them life and motion.

6. I am always pleased to see your desire to obtain knowledge; but children frequently ask a great many questions about things improper for them to know. I wish you to ask as many questions as you now do; but I wish you to think more about your bodies—why it is that we eat every day; and why it is that we grow; why it is that when we cut our fingers they get well again, as we say. In other words, Physiology is the study of the living animal. A knowledge of these things will make you both happier and better children, and better men and women. Shall I tell you about them?

7. The sparkling of Clara's bright eyes showed that *she* was filled with anxiety to know.

"Tell us, do tell us," responded these little ones, "we will all be very silent, and try to understand what you say."

8. Well, rejoined I, one day I overheard two little boys, Charles and David, talking together. Charles said to David, "Is it not very strange

that I am a larger boy than I was last year? Mother told me that if I were a good boy, and went to bed when she wished me to go without crying, that I should be a man if I lived long enough. So I have gone to bed ever since, and have tried to be good, that I might grow as large as my father."

9. "No," said David, "we grow if we do not cry when we have to take medicine; for old nurse told me that I could never be a large man in the world if I cried and did not take the bitter stuff she had prepared for me. She said if I *did* cry, she would smooth down my face with a hot iron; and I had half a mind to let her do it, to see if that would not make my face larger and longer." So in this way these two boys went on talking, and although they appeared very intelligent, and had attended school several years, they did not know the simple laws of their own bodies.

10. I wish all the children who hear my instructions to know that such things are foolish and untrue. I wish you to know that you have a heart, lungs, and stomach; and also to know for what purpose they were given to you, and the service they are to you. I will imagine some of your thoughts and questions, and will try to interest and instruct you.

11. You all go to the table, one, two, and three times every day, and what do you do when you are there?

"Why I eat; yes, I eat just as hard and as fast as I can," says William; "and I carry something to school beside to eat, if I can get it."

12. What do you eat it for?

"Why," said William, "because I am hungry, to be sure; and I can scarcely wait to come to the table."

That is right, William; but what becomes of your bread and butter, and cheese, and apples?

William could not answer a word; but Alfred instantly replied, "My mother says, that what we eat makes us grow; but how I cannot tell."

13. Here are William and Alfred, and Sarah and Jane, and a great many more children, who are eating, eating all they can get, and yet they do not even think whether it does them any good or not, or in what way it benefits them.

14. But, children, our food makes blood, and our blood increases our size. Now let us examine this curious subject for a few moments and see how it is done. You have probably been at a mill where corn, wheat, and other grain, were ground into flour and meal. For this purpose, they have large stones, which by turning round, cut the kernels of corn and press them very fine. We have also something prepared to grind our food.

15. We have teeth sharp and strong, with which to chew our food, and there are also in the mouth little vessels called glands, that contain a fluid like water, which is called saliva. This moistens the food, the same as a cracker becomes soft when put into water. This saliva is called by boys and girls who do not know any better, spittle.

16. If this saliva did not exist, the mouth would soon become very dried and parched. In the back part of the mouth there are three passages: one which leads into the nose or nostril; one into the wind-

pipe, through which we breathe ; and the third, which is called the gullet or œsophagus, goes down into the stomach. The latter is the one through which we wish the food to pass. But how do we know that it will take the right course? for if it should pass down either of the other ways the person would not be able to breathe, and would soon become sick, and perhaps die.

17. Listen, and I will tell you how it is prevented from going wrong. There is a piece of flesh at the root of the tongue which moves upward and downward called a valve or trap-door, which shuts down over the windpipe when we swallow just like the cover to a book or box, and fits so nicely that the food passes along down the throat until it reaches the stomach.

18. The stomach is shaped like a bag, and usually contains about two or three pints in an adult or full-grown person. It is capable of being contracted or extended, as the case may require. The tube through which the food passes is called the cardiac orifice. The outward passage, which is called the pylorus, or "doorkeeper," prevents the food from passing out until it is properly digested, and also prevents it from returning after it has been sent out. I shall give you only a few hard names, and these I wish you to remember.

19. The stomach is situated on the left side of the body under the ribs, and has three coats or coverings. The stomach has also a fluid somewhat resembling that in the mouth, called the gastric juice, which mixes with the outside portion of the food, making it into a soft substance called chyme. All the water that we drink is taken up by the veins of the stomach, and is absorbed in about three minutes. It is for this reason that, when a person has fasted, or has not taken food for some length of time, he derives nourishment quicker from drinking than from eating, because the water is soon sent all over his body. Many ignorant persons suppose that there is one passage to the stomach for all the water which we drink, and another for all the food which we eat.

20. Dr. Wieting, an interesting lecturer on Physiology, tells an amusing story of an ignorant Irishman, who began to think about eating and drinking, but who, becoming puzzled, went to a physician, and asked him whether indeed there were two passages to the stomach—one for the solids and the other for liquids. The doctor replied that there was only one.

"Well," said he, "I think they must be wide awake down there to separate the puddin' from the milk when I eat them."

21. If the nerves that lead from the stomach to the brain were cut off the sensations of hunger and thirst which we all feel would be destroyed. After the chyme has been formed it passes out of the stomach through the pylorus into the duodenum, or second stomach, as it is sometimes called, which is the upper part of the intestine. As soon as one portion of the food is sent out of the stomach another portion is formed into chyme, and so on, until all has been mixed with the gastric juice, which soon takes place, unless we have eaten too much food, or that of an improper kind.

22. The chyme, which is prevented from returning to the stomach by a little valve in the pylorus, is now mixed with the bile that is secreted by the liver, which lies at the right side of the stomach, and a juice

called the pancreatic, which comes from the pancreas, situated near the stomach. By these two fluids it is converted into a white fluid called chyle. It now travels along over the whole internal surface of the intestines, which are six times the length of the body, but are folded in so compact a manner that they occupy but a small space.

23. As the chyle is passing, that part of it which will make good blood, or is fit for the growth and nourishment of the body, is taken up by thousands of little tubes called lacteals, because the fluid is white; also called capillary vessels—from the Latin word *capilla*, which means a hair—for these tubes are as small as a hair. It travels along through these tubes, in the same manner that the particles of oil travel along through the little tubes in the wick of a lamp, till they unite in larger tubes.

24. These terminate in glands, from which larger tubes or pipes collect and carry the chyle from all parts into one common vessel, called the receptacle or thoracic duct, which holds about a tablespoonful. From this bag a large pipe proceeds, which runs up the back part of the chest, and along till it reaches the neck at the top of the left shoulder.

25. It is now poured into a large vein called the subclavian vein, which carries the chyle, together with the old blood coming from the veins, situated all over the body, to the heart, the great fountain of life. The blood now formed runs along, being of a dark colour and not yet healthy, to the lungs. Here the air we inhale or breathe in changes the dark colour of the blood to red, as we see it when we prick our fingers.

26. Then it flows back to the heart, and by a contraction of the muscles of the heart it is thrown into tubes called arteries, with sufficient force and rapidity to carry it to all parts of the body.

27. The blood contains the elements of all those substances which compose our body. It is the blood which makes our bones, our skin, our hair, and every limb; and it is the blood which makes us grow. So you see if we did not eat we should not have any blood, and so of course we could not grow.

28. You may think it very strange that the red blood, flowing like the water in a river, can make something as hard as a bone or flesh. But when you cut your finger, or break a bone, the reason why, after several days or weeks, it heals or becomes well, is that the blood, in passing the place cut, leaves a little substance there; the next time it leaves again a little substance; when, by-and-by, it becomes flesh and skin.

29. When a bone is broken just the same process goes on, only the substance left is a little harder, till a piece of bone is formed. Should you hurt your finger-nail, so that it peeled off, you would find that gradually a new nail would grow, but if you should eat very sparingly for two or three months you would not see this growth.

30. Different kinds of food make different quantities of chyle and different kinds of blood. Animal substances make more chyle than vegetable; hence, if we lived altogether on meat and animal food we should not require so much in quantity.

31. Men, women, and children eat a great many kinds of food which are very injurious. Some people drink rum, wine, and other ardent spirits, although they are sensible that these only heat the body, do them great injury, and render them more stupid than the beasts who have no

reason to guide them. They make no blood at all, but burn the stomach till it is all consumed. Tea and coffee make poor blood; so do all kinds of spices and rich gravies.

32. In the mill I spoke of, supposing those who had the care of it should throw in corn all day, without stopping to see whether the mill was full or not, do you not suppose they would soon get the mill out of order, so that they could not use it all? But our stomachs are much more delicate, and more easily injured by our eating too fast, too much, and too often, than the mill.

33. When Nature does anything she is governed by regular rules and fixed laws, and is systematic in all her arrangements. She does one thing at a time, and is only capable of doing a certain amount, and no more, without injuring some other part or function of the body.

34. Suppose I should listen to the talking of the stomach, what do you think it would tell me? I will imagine it to be William's stomach. As soon as he awoke in the morning, and was dressed, he teased his mother for something to eat, for he was very hungry. His mother, to get rid of his importunities, said "Yes," and gave him a large slice of bread and butter. By-and-by, in the course of a few minutes, the stomach heard the bread and butter knocking for entrance; so she took it, and said, "This will make some nice blood, only it would have been better for my little master if there had not been quite so much butter."

35. So the stomach went on with her work to make it very fine, and get it ready to send to the heart; but before it could quite well send it all out William's mother had prepared his breakfast, and there was another tap at the door: "Let me come in," said some bread and butter; "And me, too," said some coffee; "And me also," said a large piece of mince-pie; all of which had been swallowed, half-chewed, almost as quick as I can speak, or you can read or hear.

36. "Well," said the accommodating stomach, "I will do all I can for you; but if you had waited an hour, or my master had ground you with his teeth, I could have done better;" but she went to work, pushing and tugging and throwing her sides together, to get the contents all digested, as it is called, or thoroughly dissolved by that gastric juice which I told you was in the stomach.

37. She almost gave up the undertaking, but she tried again, and finally succeeded in making the chyme. "There," said the stomach, "go; but I am afraid that my little master's cheeks will not appear as rosy and bright; for that mince-pie will steal away some of the colour from the blood which goes to his cheeks. I really hope that my poor sides will be able to take a little rest."

38. Little Willy will have to go to school, and will not be able to get any more food till noon. If Mrs. Stomach could have looked into her master's pockets she would have groaned most pitifully, and have had just cause for complaint; for he did not wish to go to school that day, and his mother, to pacify him and make him willing to go, gave him some candy and some chestnuts, and that large red apple which he had wished for a long time.

39. As soon as the little fellow had wiped away his tears, he started off to school. Recess came. He then put his hand into his pocket for

his apple, which he nibbled and nibbled till it was all gone ; then came his candy, which he thought was very good. " Ah ! " sighed his stomach, " what shall I do ? I cannot possibly get rid of all this apple and candy, and so I must let it remain here till I take a nap to rest me ; " but she could not sleep much, for the chestnuts came rattling down one after the other and asked admittance.

40. Soon school was done, and William ran home ; but from some cause he did not feel as happy and comfortable as he did in the morning. *He* said it was because he had been compelled to go to school and could not play at home.

In a short time dinner came on the table, and William of course took his seat by the side of his father.

41. He must eat, because he always does ; so away goes a slice of beef, then some potatoes, and a great many other things, into his stomach ; but she had not sent away all his apples and nuts, so she could not help grumbling and getting out of patience, and declared that she *would not* take anything else.

42. This made William feel so uncomfortable that he could not hold his head up, but had to go and lie down on the bed. When his mother went to him he was so hot and feverish that she sent for the doctor to come and see her poor boy, and said she was sorry that she urged him to go to school, for now he was sick. She did not once think her sympathy should extend to his poor stomach, which she had assisted in so unmercifully stuffing, and which in return had caused her little William's sickness.

43. The doctor came, and at once told her what was the matter with the boy. *He* took pity on the stomach, and gave the boy some medicine, which caused him to throw up what was not needed and what could not properly be digested, and said he must only take light nourishment for several days.

44. As I was talking thus, William, who sat by my side, blushed and seemed confused, as if he had done something wrong. Said he, " How did you hear *my* stomach speak the other day ? It is very wonderful ; but I will not make it feel so bad again. "

45. Children, you know that the stomach cannot *talk* or *think*, although it can *feel* ; but this is what it *would* say a great many times if it *could* ; and I merely suppose this circumstance to teach you the following important lessons, which you must not forget :—

- (1) That you must not eat in haste.
- (2) That you must chew your food fine.
- (3) That you must not eat after your regular meals.
- (4) That water and simple food are better for the blood than tea, coffee, and all kinds of spices and rich food.
- (5) That you must eat all your candy, apples, and nuts when at the table ; for the stomach cannot digest your food properly under four or five hours, any more than a boy could learn his lesson if his playmate should disturb him or in any way attract his attention while he was studying.

46. Remember, children, that our stomach is one of the most industrious and important organs in our whole bodies. If this be affected our



whole bodies are affected. We may injure our arm and still be able to walk, to think, and talk; the same may be true with regard to a leg or foot; but if the stomach be sick we can neither walk, run, nor use our limbs, and sometimes cannot even think. It is always performing its duties faithfully, whether we are eating, sleeping, or walking.

47. Let us, then, treat this organ with the regard and respect it deserves; let us be careful to eat nothing that shall have a tendency to injure us, or to make us sick or unhappy; for, without health our comfort and enjoyments are shortened or destroyed in a great degree. Is it right, when physicians tell us that only one drop of the oil of tobacco put on the tongue of a dog will kill him in three minutes, to learn to *love* to eat the noxious weed in a milder form? You must never learn to chew, or smoke, or to take snuff. You have not such habits formed now, and I do hope that no bright-eyed little boy will be so disrespectful to his stomach as to introduce to her acquaintance this filthy weed; for those who use it are daily losing that saliva which ought to be saved for the mastication of their food.

48. Man has only one stomach, and this is all he needs in the digestion of his food, and in preparing it for blood; we see that different animals require and have different stomachs: some two, three, or four, as the occasion may require.

49. Lobsters and crabs have a very singular stomach. Near the lower end of it there are five little teeth placed on the opposite sides; and these, being moved up and down by muscles belonging to them, grind the food passed between them, which then goes out at the orifice or opening into the intestines.

Some birds have two stomachs. The camel, ox, and other animals of that class, have four stomachs. They usually feed on grass and other vegetables, which are slightly chewed, and then carried into the paunch or first stomach; the food here undergoes but little change, when it is sent into the second, which is arranged like little cells, having little divisions or partitions between them.

50. Here the food is divided into little rolls, which are carried back to the mouth to be masticated; after which they are then swallowed and passed into the third stomach; this has long folds or membranes, where another change is effected, when it passes into the fourth stomach, where the principle work of digestion is carried on, and where the gastric juice flows to act on the food. The food is formed into chyme in the fourth stomach, and this process goes on till all the food has been brought in contact with the gastric juice.

51. Remember, when you hear about animals "chewing their cud," it is the food which has been swallowed once, and sent up into the mouth from the second stomach. These animals are called ruminating animals. In the stomach of camels the number of cells is great, and they are very large, capable of holding a quantity of water, which he can force up into his mouth as often as necessary. The camel can travel many days over the sandy desert, where there are no wells of water, on account of this provision that Nature has given to him to supply himself before he sets out on a journey.

52. In plants, nourishment is absorbed from the earth by the roots,

or from the air by the leaves, which serve as lungs to them. But I must pass to another part of the subject, and will give you a few ideas on digestion.

53. By this is meant the dissolving or changing of the food after it has been chewed or masticated. All agree that this process goes on in the stomach, but there were formerly a great many different opinions as to the manner in which it was effected.

54. The opinion that is now received is that the stomach secretes a gastric juice, which acts on the food, and dissolves it into chyme; which is easily done, if the food has been chewed or masticated sufficiently. When food enters the stomach the gastric juice flows to every part of it; but if we overload this organ it loses its power of producing the fluid. This fluid differs in different animals according as they differ in their food. The organs of digestion differ in different animals that live on different kinds of food.

55. If you regard the simple rules I have given to you, you will not have as many pains and aches, and will be far happier than if you neglect them.

I will next tell you about the bones, the skin, and perhaps the lungs and heart, if I find your interest continues.

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QUESTIONS.—State what the subject of Chapter I. is: 1. How do children frequently annoy their parents? 2. State who generally does the chief of the talking. 3. Is it pleasant to be sick? 4. State what we learn by means of Physiology. 5. State why children frequently destroy their toys. 6. State what kind of curiosity should be encouraged in children. 7. Can anything be learned by the expression of the eyes? 8. How did Charles account to David for his growing larger? 9. How did David account for *his* growing larger? Do children learn about their bodies by attending school? 10. Had Charles and David correct ideas about their growth? State what thing all children ought to understand. 11. State what children do when at the table? 12. State why children eat. Could William tell what became of his food? State what Alfred's reply was. 13. Do children generally think why they eat? 14. State why we eat. How and where is grain ground? 15. State with what we chew our food. State what the glands in the mouth contain. How does the saliva act? State what the saliva is sometimes called. 16. Is this saliva of any use in the mouth? State what passages are in the back part of the mouth. Through which does the food pass? State what would be the consequences if it should take either of the other passages. 17. How is it prevented from taking a wrong course? 18. Describe the stomach. How much does it usually contain? 19. State where the stomach is situated. State what fluid the stomach contains. How is chyme made? State what becomes of the water which we drink. State why a person derives nourishment from water quicker than from food. State what idea many persons have in reference to eating and drinking. 20. Relate the anecdote of the Irishman. 21. State what effect the nerves have on the stomach. How is the whole of the food converted into chyme? State what prevents the return of the chyme to the stomach. State where the liver and pancreas are situated. 22. How is chyle made? Over what does the chyle pass? 23. State what the lacteals are, and what their office is. In what manner does the chyle pass through them? 24. Explain the further passage of the chyle. 25. How does the chyle and old blood finally reach the heart? Where does this blood run, and what change takes place in it? 26. State what is said of the blood after it flows back to the heart. 27. State what the blood contains. 28. Explain in what manner the finger heals when cut. 29. Explain in what manner the bones unite when it is broken. 30. On what does the quality of the blood depend? 31. State what are some of the things that make poor blood. 32. How could a mill be injured? How are our stomachs injured? 33. State what the operations of Nature are. 34. Explain what the stomach of William said. 35. State what she did with

his bread and butter. 36. How did the stomach succeed with her task? 37. How did the stomach console herself? 38. State what the stomach would have seen could she have looked in Willy's pocket. 39. State what she did with his apples, &c. 40. State what William's feelings were, and to what he attributed them. 41. State what took place at the table. 42. To whom did Willy's mother's sympathy extend? 43. State what the doctor's prescription was. 44. State what effect this story had on William. 45. Can the stomach talk? State what it can do. State what five important lessons should be remembered. 46. State what effect sickness of the stomach has on the other organs. 47. How should we treat our stomachs? State what habits children should never learn. State what one great reason is that tobacco should not be used. 48. How many stomachs has man? 49. Describe the stomach of a crab or lobster. How many stomachs have some birds? How many stomachs has the camel? 49—50. How is their chyme made? State which stomach contains the gastric juice. 51. State what is meant by "chewing the cud." State what those animals are called that "chew their cud." How is the camel enabled to travel in the deserts? 52. How are plants nourished? 53. State what digestion is. 54. State what opinion is now received concerning it. Is the gastric juice always the same? Are the organs of digestion always the same? 55. State what good will result from a due regard to the rule laid down in this lesson.

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## CHAPTER II.

### BONES.

1. CHILDREN, can you tell me to-day what it is that supports our bodies? You know houses have large timbers, called frames. What is the framework of the houses in which you and I live—that is, our bodies? "That is what I never thought of," said Mary. "Will you please to tell us?" said another.

2. It is our *Bones*, children. These are all joined together, and make what is called a skeleton.

3. I must first tell you that there are two great divisions of animals, called vertebral and invertebral, which you must all remember.

All animals are called *vertebral* which have a skeleton, and are sustained and nourished by red blood. They are also called warm-blooded because they have heat in their bodies. Man, birds, fish, and quadrupeds belong to this class.

4. By *quadrupeds* I mean all those animals that walk on *four* feet, as the cow, sheep, horse, &c. Man is called a *biped*, because he walks on *two* feet only.

5. All animals are called *invertebral* which have no skeleton, and have white blood, as worms, insects, shell-fish, toads, frogs, and serpents. These feel cold when we touch them, and are called cold-blooded animals.

6. Our skeleton not only serves as a support but also enables us to perform all our motions. In this view we divide bones into two kinds—those which protect the body, and those which enable us to move. If the bones were all in one piece, every step we take would jar our whole bodies; and we should be in danger of breaking and injuring the bone every time we moved. In the top of the skeleton are the **bones** of the head, called the cranium or skull.

7. This is composed of eight small bones, all very nicely fitted and dovetailed together like the sides of a box. The places where the bones join are called sutures. In the little infant the bones are soft, and do

not unite until it is several *months*, and sometimes several *years* old. You will see what a wise provision this is; for small children are continually tumbling, and if these bones were not soft and yielding they would soon be very much injured.

8. The skull being of an oval shape it does not feel the blows so much as it would if it had any other shape. As the child becomes older the bones are firmer and stronger and give more support.

9. There are several bones which form the face. The principal ones are the jawbones, and those around the organs of seeing, smelling, tasting. As I told you in my previous lesson, we have teeth prepared for us to grind or masticate our food.

10. Some of you may think that the teeth are not worthy of our notice; but be very patient and hear me. They are of as much service, and bear as important a relation to our bodies, as any part of our framework; and they are as different in different animals as the food on which they live. They are composed of bones covered with a hard substance called *enamel*. When this decays, or is injured, the tooth is useless for strength.

11. This is sometimes destroyed when the dentist cleans the teeth, by the instruments or acids which he uses. When the enamel is gone the beauty and polish of the teeth are gone. The teeth are furnished with little nerves, thought by some to make our food more pleasant to our taste.

Sometimes a tooth begins to decay, so that the nerve is exposed to the air, and then we experience acute pain. So tender is the nerve that if it should be touched by an instrument or pin we could not endure the pain for half-an-hour. It is not the bone that aches when we say our tooth aches, but this little nerve which troubles us.

12. This nerve is covered by the enamel, and it is this which preserves the tooth sometimes for a hundred years, and even for thousands of years, as in the case of mummies—bodies which have been embalmed, or preserved from decay by being washed all over with spices and various substances.

13. Let us examine some of the different kinds of teeth, and see how well they are adapted to the food necessary for different kinds of animals, and different periods in the life of man.

14. Infants live on milk, and need no other nourishment, so they have no teeth. As they become older their bodies enlarge, and they need firmer bones to support them, and also require more solid food; but their soft gums cannot masticate or chew their bread, and apples, &c. So what do we see? The gums seem to enlarge, and that which before was like jelly has now become developed, and the little infant has a tooth.

15. You who have little brothers and sisters know with what joy the first tooth is welcomed. "Why, baby has a tooth!" cries the little prattler. But ah, she does not stop to think for what purpose it was given to her! Then one tooth after another grows, but these you know are only what is called the first set. If we could look inside the gums we should see the roots of another set.

16. The first teeth gradually fall out within five or six years, and then the other set enlarges and appears, to last us through life, if we will only

take care of them. There have been several instances where the third set grew after the person was forty or fifty years of age. I knew an old gentleman who cut his third set of teeth when seventy years of age, but this is an extremely rare occurrence. Every adult person has thirty-two teeth—four cutting teeth in front, six canine, three at each side, and six molar or grinders, three each side on each jaw. I knew an old lady who used to puzzle me very much, when I was a child, by telling me that she had not a *single* tooth in her head, and never had one. The fact was, all her teeth were large and double—that is, with double roots or prongs; but I never heard before of a similar instance, and think it must be very rare.

17. To preserve the beauty of our teeth, and to prevent their troubling us by aching, we must clean them thoroughly with cold water as often as once a day, particularly in the morning, and it would be better if this were done immediately after each meal. It was not intended by our Creator that we should lose our teeth at the age of twenty or thirty, and frequently before that time, or that art should take the place of nature by giving us artificial teeth.

18. Indians and negroes have, almost universally, beautifully white teeth, and they are made of the same materials—the same boue, the same lime forms them that is found in ours. Why, then, is there this difference? It must be either in the manner their food is prepared, as to heat or cold, or to the care they take of them.

19. Let us look at some of the teeth of different animals. I will first tell you that animals are called either carnivorous, herbivorous, or omnivorous. I will explain to you what these words mean, and then you can understand and always remember them. Those animals are called carnivorous which feed on flesh of other animals, as the lion, bear, tiger, &c. Those which live on grass, herbs, and vegetables are called herbivorous, as the cow, sheep, &c. The omnivorous are those which can feed either on herbs or flesh.

20. The carnivorous animals have sharp teeth, usually two on the upper jaw, and two on the under, at the sides, which project more than the rest, called tusks. The rodentia are those animals sometimes called gnawers, as the squirrel, mouse, beaver, &c. The beaver gnaws down large trees with its teeth, to build its house. The mouse and rat, you all know, gnaw holes in boards whenever they can.

21. The bear and lion kill and tear in pieces their prey—the smaller animals on which they feed—and they therefore need stronger and sharper teeth than the cow and sheep, which live in peace with their neighbours, and never seek to take their life.

22. There is a small carnivorous animal, the mink, which has very little but sharp teeth.

23. To see a mink, children, you might imagine that he must be a dear little creature to have such fine pretty teeth; but he has a very fierce and cruel disposition. A gentleman once set a trap to catch some musk-rats, and it was his custom to give them to his dog to devour when they were caught.

24. One day a little mink found its way into the trap, and as usual was consigned to the dog. As the dog opened his mouth to seize the

mink, the little animal stuck his sharp teeth through his tongue, and in spite of all the beatings and endeavours of the boys and men to get him away, they were unable to do so till they killed him; and then they were obliged to force open his teeth. The poor dog could do nothing but stand still, so sudden and unexpected was the attack of the mink.

25. Some animals have no teeth, as hens and fowls, but they have a gizzard where their food is ground after they have swallowed it, which answers the place of a stomach and teeth.

Those creatures called the ant-eaters are destitute of teeth, but have a long slender tongue, which they thrust into the habitations of ants, and then draw it back, covered with these little animals, which adhere to it on account of the thick saliva with which it is covered.

26. Woodpeckers have a long straight beak, fitted for piercing and splitting open the bark of trees; also a long slender tongue, covered toward the end with sharp bristles, which are turned backward, and covered with thick saliva, by which means they are enabled to get worms on which to feed. Serpents have sharp teeth bent backward.

27. Some serpents are venomous and dangerous, and others do no injury or scarcely ever bite at all. The venomous are armed with fangs, for infusing poison into wounds. These fangs are situated at the root of the teeth, in the upper jaw, and contain a little poisonous fluid, which is secreted by a gland under the eye, and which passes down to the fang by a little canal. When the tooth pierces the flesh a portion of the fluid also enters the wound, and, unless removed immediately, circulates by the blood throughout the system, and causes death.

28. When the fangs are broken or injured they are renewed or grow again, and when not in use are hidden from our sight by the gum. Those who tame snakes and play with them generally remove the fangs, and keep them without water, which renders them comparatively harmless; yet they are dangerous playthings. If we had time this would be a very interesting subject to pursue farther, but we must proceed to other bones of the body.

29. As we leave the teeth, the next principal bone which we see is the backbone or spine. I have heard many ludicrous questions asked by larger children than any of you. Yes, even men and women have wished to know if they had some spine in their backbone. This question showed their ignorance, for they should have known that the spine and the backbone were the same thing.

30. The spine is not one straight bone, as many suppose, running down the back, but it is composed of twenty-four pieces of bone. Each of these is called a vertebra. These are joined by a soft elastic—which means anything which, when it is bent or stretched, and the force which was used is removed, returns to its first shape—substance, called cartilage, which enables us to bend our back. These vertebræ are hollow, and contain the spinal nerve or marrow, and serve as a pillar or column for the support of our bodies. They increase in size from the neck down. When a person breaks his back, as it is usually called, these cartilages are broken, and can never be joined again. When the spine is diseased the person rarely enjoys health afterward.

31. As people become older they are shorter; and men who stand and

write for any length of time also become shorter, because the ligaments of the spine press down upon each other. The skull is united to the upper vertebræ by means of a joint.

32. Here we see what a wise provision is made for our ease and motion; for if our spines had been attached to our heads, so that we could not move them, how stiff would have been our bodies; and had our limbs also been firmly jointed we should have fallen every step we moved; but we have what is called the hinge joint, to enable us to move the head upward and downward, and what is called the ball-and-socket joint, by means of which we can turn our head in every direction, and enjoy much more than if it was arranged otherwise.

33. In all the joints the ends of the bones which work together are tipped with gristle, that they may move easily. The spinal marrow passes through the spine, and if this were once broken the limbs below would become numb and motionless, and life would soon end. There is an innumerable number of nerves passing from this spinal cord to the stomach, to the heart, the liver, and to every part of the body.

Joined to the spine are twelve ribs on each side. Seven of these are united to the sternum, or breast-bone, in front. This is composed of three small pieces of bone, which, although distinct at first, finally unite together, making one bone. They are called the true ribs. The other five are united to the breast-bone by means of soft cartilages.

34. The collar-bone and shoulder-blade are also united to the breast-bone, and serve their purpose, the one forming the neck, the other the shoulder. The ribs are very important bones, for they enclose all those organs which give us life and sustain it, as the lungs, heart, &c. So important are they that we should be careful not to draw our clothing so tight around them that they will press upon these organs, for the ribs are softer than the teeth, and have also that substance called ligament—the same as in different parts of the spine—at the end, and they yield to any pressure upon them, which sometimes causes death.

35. In a great many instances, where persons have been supposed to die with consumption, on examining their bodies after death, it was found that they had pressed their ribs so closely together that they had not power to breathe. In one instance which I have known the lower ribs were closed over each other, so that the stomach could not digest the food, nor the heart circulate the blood, nor the lungs take in air. The action of all the internal organs was interrupted, which caused death.

36. We find a great many joints in the body, and in those situations where they are most needed. The arm is joined to the shoulder-blade in such a way that it can turn around; at the elbow there is a hinge joint, to move it upward and downward. Some have supposed that the hinge on the door was first thought of by seeing it at the elbow. Then we find another at the wrist, also in all the fingers. There are twenty-seven bones in the hand and wrist. We might have had hands to move made of only one solid piece of bone.

37. In this way we could not have used them for one-half or three-quarters of the purposes we now can. We could not write to our friends; we could not raise our food to our mouths; the mechanic could not use his tools, however perfect they were; the lady could not play on her

piano; the mother could not knit her stockings; the little girl could not sew and make her doll baby's dresses; the little boy could not make his kite, nor spin his top, nor play with his marbles.

38. Everyone would immediately say how inconvenient this would be. There is one man without arms who can do almost anything he undertakes; yet there is not another one to be found in the United States, or in the whole world. We could not move our limbs, our feet, or our toes, without joints. Think how awkward all our movements would be if our limbs were immovable, or were composed of solid bone. We should be confined to one spot, and could not walk or move.

39. What a world this would be if its people were jointless, and what a blessed thing it is that we are furnished with these instruments. *Man* is the only animal that has *hands*, though the *forefeet* of monkeys resemble our hands, as they have nails like those on our fingers, and they can also use their feet handily; but they have little intellect.

The *foot* is also remarkably constructed with its twenty-six little bones, connected with little joints, so that we can move very easily. If we look on the sole or bottom of the foot, we shall see that the middle of it appears as if it was arched or cut out. This enables us to walk more easily and gracefully, to run, skip, and jump, and to perform every motion we wish.

40. On examining the feet of different animals we find that they are fitted and adapted to their peculiar wants and necessities, and to their character, food, and manner of life. The feet of apes and monkeys are constructed so as to enable them to climb trees; and in their native state they live among the trees, and are continually climbing and hanging on the branches.

41. The mole lives in the earth, builds her house under the ground, and rears her young there; and they can dig through grass, and even hard gravelly earth, with their feet. The forefeet of the goat, sheep, ox, and camel, have hoofs, which are double; but they have the appearance of a single one cut in two, and are called cloven. The camel has large and what we should term homely feet, but these are to support and move a large and unwieldy body, and to travel over the deserts of sand.

42. The lion and tiger feed on other wild beasts, and tear their prey in pieces. So they have strong forepaws—strong enough to tear a man's shoulder from his body—and sharp claws on their feet to assist them. Birds of prey, or those birds that feed on other birds, as the kite, the eagle, &c., have crooked and powerful talons or claws, to enable them to seize other birds.

43. The whale is furnished with fins, called oars, instead of forefeet, which are supported by bones similar to the forefeet of quadrupeds. They have no hindfeet, but have a thick tail, which has a fin or oar. By means of these fins they sail with great rapidity through the water, and can strike a boat with such force with their tail as to cut it into pieces.

44. The parrot, woodpecker, and others of that class, have the outward toe on each side turned backward, which enables them to grasp substances more firmly with their claws, and affords them a sure support in climbing. They can cling with great force to the rough bark and branches of the trees.

45. There is another class of birds—the goose, duck, pelican, &c.,



which are called web-footed, because their toes are connected by a web or membrane which fits them for swimming.

46. Their legs are situated far back on their bodies; their feathers are thick, smooth, oily; their skin under their bodies is covered by a layer of close down, which prevents them from coming in contact with the water; they have long necks, so that they are enabled to procure their food from the bottom of the water without difficulty. When you see the swan gliding so prettily over the water, think how well adapted she is for her situation.

47. There is one bird, the pelican, that has a bag or pouch in its bill to hold the fishes and worms till it has need for them.

48. The principal bones of some animals are on the outside of the body, and serve as a covering or protection to the other parts, as in the lobster. Lobsters belong to the class of invertebral animals, and have no skeleton or internal bones; but they are covered by a thick shell, which serves them for two purposes—it is a shelter for all the softer parts of the body, and is the instrument of motion.

49. *We* have bones fitted and joined to enable us to move; but the *lobster* has not. Instead of them he has a thick shell on his back. This keeps him warm, and prevents his exposure to external violence; it is a nice and snug house, in which he may repose in peace and quietude. You would probably ask if this shell grows in the same manner that our bones increase in size.

50. This shell is incapable of growth. As the animal increases in size, he throws off his old shell to change it for another. When this is cast aside his body is exposed, and remains in a defenceless state; but by *instinct*—which I shall explain hereafter—he hides himself away in some retired spot, where he can wait in security till a new shell is formed. This is done by a hard substance resembling lime, which is left on the outward surface of the skin by the blood in its circulation; that grows firm and hard, and finally fits over the body and makes a new shell or covering.

51. Insects have no internal skeleton, but are provided with a hard external covering, which serves to support their motions and protect their organs. In some it forms a complete shell. In others it consists of a tough muscular coat divided into rings. Clams and oysters have no bones. They are supplied with muscles, which permit them to move, and living in a warm house they can spend their life answering the end for which they were created.

52. Fishes are covered with a thick strong skin, and generally have scales arranged over each other like the shingles of a house. Their bodies are covered with a thick slimy matter, which defends them from the water, and they breathe by means of their gills, through which they take in water or air.

53. Crocodiles are covered with a thick coat of scales which are proof against a bullet or blows of any kind. This covering appears very fine, resembling carved work. The crocodile is from twenty to thirty feet in length, and can run with the speed of a man, and, being insensible to blows, is very dangerous. When a person is pursued by one, he can scarcely avoid him in any other way than by making a turn; for they are so long that it is difficult for them to turn their bodies round.

54. The turtle and tortoise have an upper and lower shell, joined at the sides, through which the head, tail, and four extremities extend. The upper shell is formed by the extension and enlargement of the ribs and part of the backbone, and the lower one by the sternum or breast-bone, so that a part of their skeleton is on the outside of their bodies; the ribs, breast-bone, and vertebræ, forming their shell or covering. Their stomach is simple, their intestines long, and they are capable of going without food for a long time.

55. They are very tenacious of life, having strong muscles, especially in the mouth and throat; for, when they bite anything, they will not open their teeth, even if whipped or beaten with a stick. A turtle once caught a fine little gosling in the water by the wing, and held him fast by the teeth, and would not let him go till some one shot him with a rifle, which stunned him. A person once caught a turtle, cut off his head, and threw it away; but for several days afterward the body moved around the house as though alive, owing probably to muscular contraction. I might tell a great many interesting facts about different birds and animals, but I must pass on to different subjects.

56. The bones are covered by a thin substance called periosteum. When this is diseased, people have the rheumatism.

Perhaps some will say why do not the joints rub together and prevent their moving? This would be the case if they were not continually moistened by a fluid called synovia, which enables them to move very easily, in the same way that wheels can turn much faster and better when well oiled. If there were nothing to moisten our bones, they would creak, and make as much noise as some carriage wheels do when not properly oiled.

But the bones and joints alone would not enable us to move in all the various directions we desire; therefore Nature has provided us with a great many different muscles for this purpose, as well as to give form and proportion to the body.

57. The muscle is what we call lean meat. Do not forget, children, when you eat beefsteak, that you are eating the muscles of the ox which kept his bones together, and enabled him to draw the great loads. The muscles are red because they contain blood.

58. They cover the bones, crossing the joints, running along up the limbs, over the back, arms, and neck, and are particularly large and numerous where they are most needed, as in the back, hips, legs, &c., but though so numerous they never interfere with each other. Sometimes the action of a muscle is needed where, if it were placed, it would be quite inconvenient. Now mark the remedy. We could not have devised a better or more ingenious one if we had bestowed a great deal of thought on the subject. The body of the muscle—which means the centre of the muscle, and is generally the largest part—is placed at a proper distance, and made to communicate, where the action is necessary, by slender strings or threads.

59. As every joint in the fingers, hands, and feet are moved by muscles, if the muscles had been placed in the palm or back of the hand, or in the feet, they would have been very unsightly and very clumsy in appearance. They are, however, situated in the arm, and act by long strings called

tendons, which pass to the joints. These tendons are all clasped down at the wrist by a bracelet which Nature has prepared under the skin to keep them in their place. In the same manner the muscles which move the toes and feet are placed along the leg, and are all confined by a little band at the ankle.

60. Without this wise provision the tendons would have sprung from their places every movement we made. Whatever part of the body we examine we see the wisdom and goodness of our Creator; every part is so nicely fitted and adapted to its purpose.

Where there is a muscle needed there we find it arranged in the most convenient and beautiful manner. Suppose instead of the joint at the shoulder we had had the hinge joint, like the one at the arm, then we could only have moved our arm and shoulder upward and downward, which would have been much more inconvenient than it is now, when we can turn it in every direction.

61. When we wish to raise our arm, our mind speaks to the muscles leading to the arm, and tells them to contract or shorten, and they, like good and obedient children, instantly obey, and the arm is raised. When we desire to put it down, our mind speaks to another set of muscles, which expand, and the arm drops.

When John refused to get up this morning, it was because his *mind* did not direct the proper muscles, and not because *they* refused.

62. And when Sarah's mother told her that she must knit so many rounds, or do so much sewing, before she went to play, her little muscles did not move one-half so quickly as afterwards, when she was engaged in her sports—and why? Simply because her mind was not so much interested, and of course, her muscles moved more slowly.

63. How often is it that children think they have very hard tasks given to them, which they cannot possibly perform, as *they* say; but they do not consider that if they are disposed and interested in their labour, their muscles will assist them as readily as at play, when they frequently take very hard exercise. When the intemperate man falls to the ground or totters along, it is because he has not command over his mind—hence none over his muscles.

64. In no part of the system is the variety, quickness, and accuracy of muscular motion so remarkable as when we move our tongues in speaking. Every word we speak, every syllable we utter, requires a distinct action of a muscle. If you will notice the many different positions of the mouth in talking, you will hardly be surprised to find that there are persons who are deaf and dumb who can partly understand what others say by watching the muscles of the mouth.

65. We also move a great variety of muscles in our hands when we write, or otherwise use them; also in our feet, when we walk; and when we eat, and in everything else that we do. Different animals also have muscles to assist their motion. Those without bones depend on muscles alone.

66. The elephant has a very short neck, and a large and clumsy head; consequently it would be impossible for him to take up his food and drink from the ground, like other animals, so he has a trunk or proboscis. This is a long flexible or bendable organ, composed of a great number of

muscles which contract or expand, and enable him to move in every possible direction as he pleases. His trunk is endowed with the sense of smelling and feeling to a great degree of perfection. At the extremity there is a hollow, like a cup, which he is able to bend and turn so easily that he can take up his food and put it into his mouth, and can also take up water and force it through the nostrils into the mouth. I shall tell you more about this curious animal when I speak of the instinct of animals.

67. You will understand better what is meant by the contraction and expansion of muscles if you will take a piece of indianrubber and stretch it. This will show the expansion; and when you remove your hand it will take its original size and appearance; this will show the contraction. But in our bodies there are *two* sets of muscles, one for contraction and the other for expansion.

68. Dr. Alcott relates a very interesting fact to illustrate the action of the muscles, as follows: "In front of St. Peter's Church, at Rome, stands an obelisk, or pyramid, of red Egyptian granite, one hundred and twenty-four feet high. It was brought from Egypt to Rome, by order of the Roman emperor Caligula, where it lay partly buried in the earth, on the spot where it was laid down, till about two hundred and fifty years ago, when Pope Sixtus V., by the help of forty-one strong pieces of machinery, eight hundred men, and one hundred and sixty horses, in eight days succeeded in getting it out of the ground; but it took four months more to remove it fifty or sixty rods farther to its present situation.

69. "When they had at length reached the spot, the grand difficulty was to raise it. They erected a pedestal or foot piece, shaped like four lions, for it to rest on; and by means of powerful machines, and many strong ropes and tackles, they placed the bottom of it on the pedestal. Then they began with their machinery to raise it. But when it was nearly up, so that it would almost stand, the ropes, it is said, had stretched so much more than the master-workman expected, that it would go no farther.

70. "What was to be done? Fontana, the master-workman, had forbidden all talking, and they now stood holding on the tackles so silently that you might have heard a whisper. Suddenly an English sailor cried out, 'Wet the ropes.' This was no sooner said than done when, to the surprise and joy of everybody, the ropes shrunk just enough to raise the obelisk to its place, where it has now stood two hundred and fifty years, and where it may perhaps continue to stand many thousand years, unless an earthquake should shake it down." Our muscles contract and shorten to move our bones in the same way that the ropes shrunk to move the pyramid, and also add much to the beauty and proportion of our bodies.

71. As I told you in the previous chapter, all these two hundred and fifty bones, and five hundred and twenty-seven muscles, are formed from the blood, and that is made from the food we eat; therefore you must not only be careful, children, about the quality and quantity of your food, that you may have good bones and muscles, but you must take care of these bones and muscles when they are made; for they will soon become diseased and useless if you do not use them.

72. Hence you must take much exercise in the free, pure air of heaven: do not be fearful about running and jumping so as to use all your muscles.

Little girls who wish to have strong muscles when they are old must not be ashamed, as some young ladies are, to work and assist their mothers, and to run about in the open air.

73. Nearly everything is strengthened and improved by use, and weakened by disuse. You may say that your clothes wear out the more you use them; but such is not the case with the bones and muscles, for though they are continually changing, yet the blood is as constantly forming new ones by depositing those little substances, as when you cut your finger, of which I have before spoken.

74. There is a substance which surrounds the muscles, of a whitish colour, called fat. It is this which nourishes us for a long time when we are sick, and do not take much food. Some persons always express wonder when they see anyone very thin and emaciated after a severe fit of sickness; they would not be thus surprised if they took into consideration the fact that the fat has all been consumed, and that they must eat heartily again, to make more fat to cover their bones and muscles.

75. There are some animals, like the bat and bear, which as soon as cold weather approaches retreat into their houses or dens, and remain there all winter in a sleepy, torpid state. They take no food during this time; but their bodies are nourished by the fat, so that when they awake in the spring they are very thin and poor. Sometimes the fat makes its appearance on the outer surface of the skin, and forms pimples. Too much fat is unhealthy, and prevents a free circulation of the blood.

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QUESTIONS.—Name the subject of Chapter II. 1. What have we in our bodies which correspond to the timbers in a house? 2. State what a skeleton is. 3. State into what two great classes all animals are divided. State what is meant by *vertebral*. State why they are called warm-blooded. State what some of the animals are that belong to this class. 4. State what is meant by quadrupeds. State what a biped is. 5. State what is meant by *invertebral*. State why they are called cold-blooded. 6. State what are the uses of skeletons. State what two different kinds of bone there are. State what the consequence would be if the bones of the body were joined in one piece. State what the skull is, and where it is situated. 7. State how many bones compose the skull. State how these bones are arranged. State what the sutures are. State what wise provisions we find in the construction of these bones in children. 8. State what good results from its shape. How does age affect the bones? State what the skull contains. How important is the brain? 9. State what the bones of the face are. State what are the uses of the teeth. 10. How do some regard the teeth? How should they regard them? Do they differ in different animals? Of what are they composed? How important is this enamel? 11. In what manner is it sometimes injured? State what the results of its decay are. State with what are the teeth furnished, and for what purpose. State what occasions the toothache. 12. How is the nerve protected? How durable is the enamel? State what mummies are. 13. To what are the different kinds of teeth adapted? 14. State why small infants have no teeth. State when a tooth makes its appearance. 15. How is the first tooth generally welcomed? How many sets are there? 16. How long does the first set generally last? State what takes the place of the first set. How long will the second last if we take care of them? State what fact is mentioned respecting a man seventy years old. How many teeth has an adult person? State what they are. Do all have both single and double teeth? 17. How can the beauty of the teeth be preserved? Did our Creator intend to give us teeth that would not last us through life? How does art take the place of nature? 18. State what kind of teeth Negroes and Indians have. Do their teeth differ from ours in quality? In what must the difference consist? 19. Into what three classes are animals divided? State what animals are called carnivorous. State what animals are called herbivorous. State what animals are called omnivorous. 20. State what kind of teeth the carnivorous animals have.

State what animals belong to the class called rodentia. State what some of the animals that belong to this class are. 21. State why the bear and lion require much stronger teeth than the cow and sheep. 22. State what is said of the mink's teeth. 23. State what kind of an animal would some judge him to be from his teeth. 24. Relate an anecdote of a mink. 25. State what animals have no teeth, and with what they are supplied. State what is said of the ant-eaters. 26. State what peculiarity there is in the woodpecker. How are the teeth of serpents constructed? 27. State with what venomous serpents are armed. Describe these fangs. 28. Are the fangs ever renewed? How are snakes tamed and rendered harmless? 29. Say what important bone will be next described. State what mistake persons have frequently made in regard to the spine. 30. Of what is the spine composed? State what a vertebra is. How are the vertebra joined? State what the vertebra contains. State what we mean when we say the back is broken. Do persons recover from disease of the spine? 31. State why people become shorter who stand for any length of time. How is the skull united to the upper vertebra? 32. State the advantages of the hinge joint and the ball-and-socket joints. 33. State with what the bones are tipped, and why. State what takes place if the spinal marrow is injured or broken. How is the spinal marrow connected with the stomach, heart, and lungs, &c.? How many ribs are there? Describe the sternum. State what the true ribs are. 34. For what purpose are the collar-bone and shoulder-blade? State why the ribs are important bones. State what care we should take of them. 35. Is death ever caused by pressure on the ribs? Explain why this is the case. 36. Is there any system in the arrangement of the joints? State what difference there is between the one at the shoulder and at the elbow. Is there anything in a house that resembles the hinge joint at the elbow? How many bones are there in the hand and wrist? State what advantages arise from the great number of these bones. 37. If our hands had been made of one solid piece of bone what could we not have done? 38. Is there any instance where the other limbs have been substituted by the hands? State what would be the consequence if we were jointless. 39. State what distinction there is between man and other animals. State what places man above monkeys. How many bones has the foot? How are they connected? Is there any peculiar arrangement in reference to the sole of the foot? State what advantage it is. 40. To what are the feet of different animals adapted? How are the feet of monkeys and apes constructed? 41. How does the mole use her feet? What can you say of the forefeet of goats and sheep? Describe the feet of the camel. How are they adapted to its wants? 42. How are the feet of the lion and tiger adapted to their necessities? State with what kind of feet birds of prey are furnished. 43. State what serves the whale instead of feet. State what enables it to sail in the water. How strong is the tail? 44. State what enables the parrot and the woodpecker to climb and support themselves. 45. State what web-footed birds are. For what does this construction fit them? 46. How are their legs situated? By what is the skin underneath their bodies covered? State what advantage their long neck is. 47. State where the pelican puts its food. 48. Are the bones always underneath the skin? Describe the bones of the lobster. 49. How do the bones of the lobster differ from ours? Describe the house in which the lobster lives. 50. Does this house ever increase in size? State what the animal does when his shell is too small. How is the new shell formed? 51. Describe the bones of insects. State the use of bones in different animals. State what clams and oysters have instead of bones. How are they enabled to move? 52. Describe the covering of fishes. How do they breathe? 53. Describe the covering of crocodiles. How great is their speed? How can crocodiles be avoided? 54. Describe the covering of the turtle and tortoise. How is the upper shell formed? 55. What qualities do the mouth and throat possess? State what anecdote is related of a turtle. 56. By what are the bones covered? State what the rheumatism is. Do the joints rub together? State what enables them to move easily. State what the result would be if the bones were not moistened. State what is necessary besides bones and joints for all our motions. State what the office of the muscles is. 57. State what muscle is. State what the muscles of the ox are. State why the muscles are red. 58. How numerous are the muscles? Is the action of the muscles ever required where their position would be inconvenient? How is this remedied? State what the body of the muscle is. 59. State where the muscles which move the hands and feet are situated. State why they are not placed in the hands and feet. How are the tendons confined at the wrist? How are they confined at the ankle? 60. State what would take place if they were

not bandaged. State what we see displayed in every part of the body. State what adaptation there is in the body. State why it would not have been as well to have had the hinge joint at the shoulder. 61. Explain how we raise our arm. Explain also how we put it down. Do the muscles refuse to obey the mind? 62. State when the muscles move most rapidly. How is this illustrated in the case of the little girl? 63. State why the small tasks of children sometimes appear difficult. Why do intemperate men often fall to the ground? 64. State what is said of the muscles of the tongue. Could we speak without muscles? How can the deaf and dumb understand many things that are spoken? 65. In what part of our bodies do we use a great variety of muscles? On what do animals which have no bones depend? 66. How does the elephant take up his food? Describe the trunk. State with what the trunk is endowed. State what there is at the extremity. State what the uses of the trunk are. 67. How can you show what is meant by the expansion of muscles? Also the contraction of muscles? 68. In what way does Dr. Alcott illustrate the action of the muscles? 69. State what difficulty there was when the pyramid was removed to its present situation. How did they attempt to raise it? State what new obstacles occurred. 70. State what had been the orders of Fontana. State what plan was suggested by the Englishman to succeed. Did it succeed? How do our muscles resemble the ropes? 71. How many bones are in the whole system? How many muscles? From what are the bones and muscles formed? State why we should take care of the muscles. 72. How can you keep your muscles well and strong? How can little girls secure good muscles? 73. Does use wear out the muscles? Why not? 74. State what the fat is. State what is the use of fat in sickness. Should we be surprised to see the fat gone after a fit of sickness? 75. In what state do the bears and bats live during the winter? State what their appearance is in spring. State what pimples are. Does the fat make us healthy?

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## CHAPTER III.

### SKIN.

1. If we had bones and red muscles only for a body we should present rather a rough and ugly appearance; but we have a covering drawn over the muscles, called the skin, which conceals them from view. Perhaps you have never thought much about the skin, but have merely supposed, as many undoubtedly have, that it is only a simple substance. This is all that some either think or care about it; but they are quite mistaken in regard to the importance of our knowledge respecting it.

2. The skin is sometimes soft, smooth, and delicate; then it is thick and wrinkled, as in the palm of the hand, or sole of the foot. It consists of three coats or membranes, which I will describe.

The first is called the *cuticle* or *epidermis*. This is a very thin covering, and is seen when a blister is raised. It is this layer that peels off in cases of fever. This covering is soft or hard, and becomes so by the manner we use it. If the cuticle were as soft on the feet as we find it to be on the hands, little boys could never run barefooted as they do; but it becomes almost as tough as leather. A great deal, however, depends on the manner we use this, as well as every other part of the body; for the stage-driver's hands, that are exposed to every variety of storm, are composed of the same material as that of the delicate lady who always uses a muff.

The cuticle on the foot of an infant is as soft and tender as on any part of the body, and does not become hard till the child has walked.

3. This thin cuticle is transparent—which means that we can look through it as we can through glass and water—and has little pores, but

no veins or bloodvessels. This skin continued makes our finger nails, which protect the ends of the fingers, as the cuticle does the skin.

4. Immediately underneath the cuticle is another layer, called the *rete mucosum*. There is more feeling in this layer than in the first. Spread over this skin is what is called the *colouring matter*. It is a great mistake to suppose that because some have a black, and others white, and others red complexions, that the *whole* blood and skin are of different colours. The only difference between the blackest person who ever lived and the whitest, is in this liquid on the surface of the second skin, which is either black, or white, or red.

5. The third layer is called, to give you another hard name, the *vera cutis*, or the true skin. Over this are little nerves, which run backward or forward in all directions, proceeding to the brain, and produce all the pain or sensation which we feel when hurt or injured.

6. When the surgeon takes off a limb it is not in cutting the bone—if the bone be in a healthy state—that we experience pain, but only when the third skin is cut; and it is for this reason that it is called the true skin. When we prick ourselves with a pin or needle we draw blood, however slight the wound, because the two outer skins are so thin and delicate that the third feels the touch instantaneously, and the nerves of feeling are so numerous. They branch off to the spinal marrow in the spine, and thence to the brain or mind, so that we feel every touch.

7. You have probably noticed that some persons have scars on their bodies from cuts or burns, and that these remain as long as they live. This is, because, when the third layer or true skin is injured in any way it never grows again. When we cut or burn it, the wound may heal, but the skin cannot be renewed, and the scar will therefore always remain. You frequently hear people say that children will “outgrow” scars. They sometimes do, it is very true, disappear; but it is when the two outer skins only are affected that the scar will be removed; for these two skins can be formed again from the blood.

8. There are many who receive accidents when they are quite young, and though the hand, or limb, or part of the body affected, increases very much in size, yet there will always be a scar left. There will frequently be white spots on the bodies of Negroes, occasioned by wounds in the third skin, and the removal of some of the colouring matter on the second, which does not grow again.

9. Here again we see how wonderfully good our Creator was in furnishing a covering, for this part, which is so sensitive to every impression, and which, if exposed, would continually be in danger of injury at every step we take, but which is now shielded, as it were, from heat and cold, and all harm.

10. There are little cells or pores on the outer surface which permit the sweat or perspiration to pass through; and in this way many diseases which lurk about our bodies are continually passing off. This enables us to endure the very great heat of summer, as the constant perspiration carries off our superfluous heat.

11. There is then one very important thing for us to do to keep this skin in order: and what do you think it is, children? The little pores



are very small, so that when there is a blister formed and filled with water, which puffs up the cuticle, the water cannot escape through them. That very important thing for all to remember, is, *to bathe the whole body at least once a day*, that the pores may not be closed by the perspiration which passes off.

12. It is not sufficient to follow the example of too many little boys and girls, and I am afraid children of an elder growth, merely to put a little water on the hands and faces—many children would like to run off to school without doing even that—but that part of our bodies covered by clothing must be kept clean, as well as our faces and hands, if we wish to preserve our health, our life, and happiness.

13. All children can do this themselves without troubling their parents; and if they will do it I can assure them that they will each have a longer life and more enjoyment; for if the particles are suffered to remain on the skin we cannot breathe so well, and of course soon become diseased.

14. If the windows of a house were never to be washed they would soon become nearly useless, and would give us very little light or pleasure. If the paint and shingles were never repaired the house would soon fall to decay, and be unfit for us to live in; so it would be as bad, and even worse for our house—that is, our body—if we did not repair or clean what has been called the shingles of our house—that is, the skin. The nails and hair are appendages to the skin. The nails are formed by little layers of thin skin, and serve to protect the ends of the fingers.

15. The hair is for a covering to the skull, each hair having a little bulb or root which has a nerve of sensation. Some say that the colouring matter is contained in this little bulb; others, that it passes through the little tube in each hair. Sometimes the root decays, and then again the skin becomes diseased. In either case the hair falls off, and is dead or has no life.

QUESTIONS.—State what the subject of Chapter III. is. 1. State where the skin is situated. How should we appear if our bodies were composed of bones and muscles only? State what opinion some persons entertain respecting the skin. 2. Is the skin always of the same thickness? Of how many coats does it consist? State what the first is. Describe the cuticle. How does the cuticle become hard? State what constitutes the difference between the hand of the lady and that of the stage-driver? Is the cuticle naturally harder on the feet and hands than elsewhere? How does it become so? 3. State anything you may know about the cuticle. State what the finger-nails are, and what their use is. 4. State what the second layer of the skin is. State what is meant by colouring matter. State what constitutes the difference in colour among individuals. 5. State what the third layer of the skin is. State what produces pain or sensation. 6. State what causes pain when a limb is cut off. State why we *feel* the prick of a needle. 7. State why scars sometimes disappear. 8. Do children ever “outgrow” scars. State why we occasionally see white spots on the bodies of Negroes. 9. How is the goodness of our Creator exhibited in the construction of the skin? 10. State what the use of the little cells on the surface of the skin is. 11. State what important thing we have to do. State what the result would be if the pores of the skin were to close. 12. Will it not be sufficient to wash our hands and faces only? State what depends on the cleanliness of the skin. 13. State who can relieve parents of this trouble. State what the good results will be. 14. How can we apply the principle to the windows and paint of a house? State what the nails and hair are called. 15. State what purpose the hair serves. Has the hair any nerves? State where its colouring matter is. State when the hair falls off.

## CHAPTER IV.

## THE HEART AND LUNGS.

1. I will now tell you, children, about this curious heart of ours. You will recollect that you learned in my first lesson that our food made blood. Suppose, then, we had bones, muscles, ligaments, skin, and stomach, but no vessel or receptacle to receive the blood when it was made.

2. Life, under such circumstances, could no more be sustained than a steamboat could sail through the water of a thousand little streams, if it were not collected together in a river or bed of water. The heart is a double organ, and lies in the middle of the chest, with the point inclining to the left side, which gave rise to the idea that it was situated there.

3. The heart has four divisions—two to receive the blood after it is made from the food, called the *auricles*; and two others, called *ventricles*, to send it to the several stations where it is most needed.

4. After the blood comes to the heart from the veins it is necessary to send it to the lungs before it is fit for use; for this purpose there are muscles in the heart which contract and force it out to the lungs.

5. Motion is of two kinds—voluntary and involuntary. That is voluntary which is performed by means of the bones, muscles, and tendons, and is influenced by the will or mind.

Involuntary motion is that produced by organs not connected with the bones, but which possess muscular fibres, as, for instance, the stomach, which is a hollow muscle, and digests its food without the knowledge of the mind.

6. The heart is also a hollow muscle, which contracts and expands to receive and send out the blood when necessary. It is protected by a bag called the *pericardium*, which is made of strong and rough materials. This case holds a very little water, just enough to permit the heart to move freely and easily, and is placed between the lungs.

7. The lungs fill all that cavity in the chest not occupied by the heart, and are composed of blood and air vessels. They are so light that they will float in water. They are sometimes called bellows, because they contain so much air. They appear like the branches of a tree, and extend each side to the heart. When we take in a breath of air, we *inhale* it; when we throw out a breath, we *exhale* it.

8. We *inhale* it to change the colour of and to purify the blood. We *exhale* all that does us no good, but which would, if retained in the body, be an injury to us. You know, children, that air is all around us. We could not move or live without it; and though we can neither see nor handle it, yet it has been divided into several gases, called oxygen, carbon, and nitrogen.

9. When the air is thus divided one part of it will sustain life and the others are very injurious. The oxygen of the air unites with the dark blood in the lungs, turning it to a red colour. It then rushes back into the heart. The muscles of the heart contract, and send it out through the vessels, called arteries, to make skin, bone, flesh, hair, nails, and every part of the body. It finally terminates in the small capillaries and veins, when it is changed into a dark red colour.

10. It is then again unfit for nourishment, as some of the good qualities have been taken out in its circulation. This dark-red blood then unites with the chyle, is sent into the heart, thence to the lungs, and is purified by the air. It is again sent back with its colour changed, and proceeds as I have previously stated.

11. You may ask why the blood does not rush back again to the heart after it has entered the artery. It is because there are little valves or trap-doors that shut over the arteries when the blood has entered them. These move as easily as a door closes on its hinges, and prevent the return of the blood.

12. The arteries are larger than the veins, and lie deeper in the system, or more removed from the surface. They serve to carry the blood out of the heart, and to distribute the proper nourishment where it is required. The veins are more numerous, and smaller in size than the arteries, and bring the blood to the heart.

13. There was great wisdom manifested by our Maker in locating these different vessels, for if we accidentally cut a *vein* there is not much danger; but if an *artery* be severed, and the ends are not immediately tied, death will be the result.

14. You will hear physicians frequently speak of "feeling the pulse;" for that purpose they take hold of the wrist. All they mean is that they wish to know how rapidly the blood passes or circulates, and as the artery at the wrist is nearer the surface than any other, it can be relied on with more certainty, although the blood does not flow through this one more rapidly than through the others.

15. By palpitation of the heart we mean that there is some obstruction in the way, which makes the circulation irregular. Our lives and existence depend on the regular circulation of the blood, hence this palpitation is considered very dangerous. We ought not to breathe the same air the second time, for if we do it will not then contain sufficient oxygen to produce that change necessary for good blood.

16. In order to have as pure air as possible we should *ventilate* our rooms, especially those in which we sleep. When the blood is taken from the body and exposed to the air it becomes thick, or coagulates; little yellowish particles of fluid arise, which are called the serum; a thick substance is left, which when washed loses its red appearance and becomes white; this is called the fibrine of the blood. It is supposed by many that there is iron in the blood, which gives the red colour to these particles.

17. You have all heard of consumption. This means that the lungs are consumed, or incapable of inhaling a sufficient quantity of air to support life. This disease, which causes the death of many dear friends, is produced by wearing thin shoes in cold and damp weather, by the use of intoxicating drinks, tobacco, tea and coffee, dirty habits, bad air, free use of animal food, licentious indulgence, frequent colds, inflammation, &c., either in ourselves or parents, and by drawing the clothes so tightly around the ribs that they crowd in and destroy the lungs. This disease might be prevented in a variety of cases by proper care and attention.

18. Dr. Harvey, an Englishman, made the discovery of the circulation of the blood in the year 1620. For many years he durst not let the

public know his ideas and opinions on this subject, and when he did he was much opposed, very few believing his new principles.

19. Nearly every discovery that has been made in physiology or philosophy has met with very bitter opposition when first introduced. Some will not believe any new doctrine, even when the evidence produced is sufficient to prove its correctness, but adhere tenaciously to the old system of things. Harvey lived long enough to see his principles admitted by the scientific; and though he was much persecuted for many years, yet he had the pleasure of knowing that he was correct in his belief. Among the many proofs which led him to make this discovery are the following:—

20. *First*: If the chest of a cold-blooded animal, a toad or a frog, be opened, the heart can be seen to contract and dilate. Then it remains an instant at rest, and again dilates and contracts, and raises itself a little, thus, as in our own bodies, causing beating. There would be no cause for this expansion and contraction if the blood did not flow in and pass out of the heart.

21. *Secondly*: Another reason is that in all the arteries there are valves, which permit the blood to pass into them but prevent its passage back towards the heart; also in the veins the valves allow the blood to go towards the heart, but not in the opposite direction. These facts alone would clearly prove to every candid mind that they would not have been constructed in this manner, and so well adapted for the circulation of the blood, unless it had been for that specific purpose, and for that alone.

22. *Thirdly*: It has been said that the circulation of the blood through the veins and arteries may be seen by a microscope—an instrument by which the smallest object can be seen—in some of the delicate parts of different animals, as in the web of a frog's foot.

23. *Fourthly*: The way in which bleeding from a vein is performed is another proof of the circulation of the blood. A tight bandage is placed around the arm *above* the place where the vein is opened. The blood, in returning through it towards the heart, is interrupted in its passage, and as the artery underneath is not compressed the vein is filled with blood, and is swelled. If the vein be then opened below the bandage the blood will flow freely, but if the bandage be tight enough to compress the artery the blood cannot pass through it from the heart, so there will soon be none in the vein; or if the opening be made above the bandage no blood is obtained.

24. *Fifthly*: In the amputation, or cutting off, of a limb, the surgeon ties only the ends of the arteries together. As these carry the blood from the heart to all parts of the body, the patient would soon bleed so as to cause death, unless some means were taken to prevent it. The veins which carry the blood back to the heart do not bleed, and therefore need not be tied.

25. From these five reasons or proofs of Dr. Harvey we cannot but believe that the blood passes from the heart, through the arteries, into the veins, and is returned by them into the heart; or, in other words, that the blood continually circulates, or is distributed through our bodies.

QUESTIONS.—State what the subject of Chapter IV. is. 1. State what we need beside skin, bone, muscle, and blood. 2. State what the results would be if there was no receptacle for the blood. Describe the heart and its situation. 3. How many divisions has the heart? State what they are called. State what the office of the auricles is. State the office of the ventricles. 4. State where the blood is sent that comes from the heart and the veins. How is this accomplished? 5. State what the two kinds of motion are. State what is voluntary motion. State what is involuntary motion. Give an illustration of involuntary motion. 6. How is the heart enabled to receive and send out the blood? By what is the heart protected? State what this case contains, and for what purpose. State where the heart is situated. 7. Of what are the lungs composed? State where the lungs are situated. State what is said of their weight. State what they sometimes are called. State what they resemble in appearance. State what is meant by inhalation. State what is meant by exhalation. 8. State what the use of inhalation is. State what the use of exhalation is. Is air confined to any particular space? Into what has it been divided? State what these gases are called. 9. Are these different gases equally healthy? State what effect the oxygen has on the dark blood, and what becomes of the blood. By what means is the blood sent from the heart? For what purpose is it sent through the arteries? State what becomes of this blood? 10. State why this blood is then unfit for nourishment. Describe the further course of the blood. 11. State what query might here suggest itself. State what prevents the flow of the blood back again into the heart through the artery. 12. Describe the arteries and their use. Describe the veins, and their specific purpose. 13. How was the wisdom of our Maker displayed? Which require the most care—the veins or arteries? Why? 14. State what is meant by “feeling the pulse.” State why physicians always judge of the condition of the body by the artery at the wrist. 15. State what is meant by the palpitation of the heart. State why palpitation is considered dangerous. State why we should not breathe the same air twice. 16. How can we obtain pure air? State what rooms especially require ventilation. State what change takes place in the blood when it is exposed to the air. State what the serum is, and what its colour is. Describe the fibrine and its appearance. State what other elements some suppose to be contained in the blood. Is there always the same quantity of iron? 17. State what consumption is. How is the disease produced? How can consumption be avoided? 18. State who discovered the circulation of the blood. In what year? Did he make his discovery known? 19. How has every discovery in science been received by the public? To what do some always adhere? Was the opposition and prejudice finally removed? 20. State what the first proof of the circulation of the blood is. 21. State what the second proof of the circulation of the blood is. State what the present construction of the veins and arteries should clearly prove. 22. State what the third proof of the circulation of the blood is. What is a microscope? 23. State what the fourth proof of the circulation of the blood is. How is bleeding from a vein performed? State what the result would be if a bandage were too tightly bound. 24. State what the fifth proof of the circulation is. State why the veins do not require to be tied. 25. To what conclusion should these five reasons of Dr. Harvey lead us?

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## CHAPTER V.

### SECRETION.

1. The word secretion means a separation of fluids. When it is used in physiology it has reference to a certain process by which various substances are separated from the blood without being changed in their separation. We call this act of separation secretion; and we also call the substance that is separated secretion—as we say that by secretion the gastric juice is formed in the stomach, and we say also that the gastric juice is a secretion of the stomach. Both are correct.

2. Without secretion there would be no possible way for the different

parts of the body to be nourished, and many injurious substances would not be discharged from the blood ; therefore it is very important for our health that these secretions should not be interrupted. These substances, though derived and separated from the blood, are very different to it in appearance and composition, as we shall see.

3. There are three kinds of organs for the purpose of secretion, which I wish you to remember when I have explained them to you.

First : THE EXHALANT VESSELS. Second : THE FOLLICLES. Third : THE GLANDS.

4. You may recollect that I have informed you that there are a great many little vessels through which the chyle passes over the intestines. These are called capillaries, and it is thought by many that the exhalant vessels, which are very small, are connected with them. These exhalations are internal when they take place in the body. The head, chest, and stomach are all lined with a thin covering which throws out a little fluid, sufficient to keep them moist, and enable them to move easily.

5. The *fat*, of which I have heretofore spoken, is caused by exhalation, or is one form of secretion. It is first an oily, greasy fluid, then becomes hard, and serves as a protection to the skin. Then the ligaments around the joints are lined with the same kind of membrane as the stomach. This secretes the *synovia*, which enables the joints to move easily.

6. The *marrow* that is in the long bones is another secreted exhalation. The use of the marrow is not known. Many suppose it makes the bones less liable to be broken ; but there is more of it in the aged than in those of younger persons, and their bones are much more easily broken.

7. The external exhalations are those which take place out of the body. These are the *sweat or perspiration* that is continually passing off, and a little moisture or fluid which passes from the lungs.

8. The second division of secretory organs are called FOLLICLES. These are little bags found in the skin near the surface. They secrete an oily substance. When this does not pass through the pores of the skin it appears like a ridge or worm ; but if the pores be kept open by frequent bathing this fluid will pass off as soon as it is secreted. There are follicles in each ear to secrete the *ear-wax*, which will produce deafness if it be not removed. There is a little follicle at the root of each hair ; and the difference between the moistness of the hair of different persons depends on the amount of liquid that the follicle secretes.

9. The third division of secretory organs are called *glands*. These are situated in different parts of the body, and are of various sizes, some being quite small, others quite large, weighing several pounds, and containing arteries and veins to carry the blood to them and return it again. The substances which the glands secrete differ very much in appearance from the blood, although they are formed from it.

10. It is thought that the elements of all the different secretions exist in the blood ; but when different elements are united in different quantities or proportions the result, of course, is different—for the same reason that a certain quantity of oxygen gas being united with several different gases makes air. If we unite another quantity of the same oxygen gas with other gases it makes water ; so that if two or more elements existing in the blood were united they would produce tears,

while several other elements would make the gastric juice, and so on with all the other secretions.

11. There is, however, a principle of life within us that regulates all these different operations that they may produce the desired result. Some of the most important fluids which the glands secrete are the following : First, the

#### SALIVA.

12. The saliva is formed by three pairs of glands situated in the mouth. They secrete the fluid which passes into the mouth through a little tube in the muscles of the face. Its principal use, when mixed with the food, is to moisten it, and render its passage more easy down the throat. It also makes the voice clearer and better by keeping the organs moist. The saliva has no smell, taste, or colour, is a little heavier than water, and contains some salt and a little acid.

#### GASTRIC JUICE.

13. This fluid is secreted in the stomach, and very much resembles the saliva ; yet it is more powerful in its operations, and of more importance to us in its use. During the process of digestion this fluid is poured on the food, and dissolves it into a soft mass, which is called chyme. It has the same effect on the food that rennet has on milk in the process of making cheese ; so when little infants throw up their milk from their stomachs in a curdled state it shows that their stomachs are in a healthy condition.

14. It is nearly tasteless and without odour, yet has the quality of preventing putrefaction, and will even remove it after it has commenced. It is said that portions of dead bodies which have become putrid and disagreeable are made perfectly inoffensive, and as if in a state of preservation, when taken into the stomachs of some animals.

15. Though the gastric juice possesses those remarkable solvent properties, which enable it to dissolve even the hardest substances, yet it has no power to act on anything that has life. Consequently, worms will live in the stomach for some time, but as soon as they are dead the gastric juice acts on them and dissolves them.

16. That digestion is effected in the manner here described, and is also influenced by the gastric juice, has been proved by experiments tried on a young Canadian, who received a wound in his side large enough for his physician to make observations when he took his food. He ascertained how long it required different kinds of food to digest, and the effect of the gastric juice on it, and made various other interesting experiments, which are fully detailed in almost every work on this subject.

#### BILE.

17. The bile is secreted by the liver, which lies on the right side, just between the ribs, and is the largest gland in the body. It has a brown, yellowish colour, is very bitter and thick, and assists in the formation of chyle. Some suppose that the liver acts as a kind of sponge to absorb all noxious substances in the blood, and throw them out of the system by means of the bile.

18. You sometimes hear that persons have a "bilious stomach." The bile should not be in the stomach ; and this would never be the case if the stomach were always in a healthy state. When oily substances, as

gravy, &c., are in the stomach, the gastric juice cannot act on them; so the bile flows from the liver, enters the stomach, and helps to remove them.

#### PANCREATIC FLUID.

19. This fluid is secreted by the pancreas, a gland situated behind the stomach. This gland secretes a very small quantity of fluid of a yellow colour, salt taste, without odour, similar to the saliva. Its secretion is not increased during digestion, yet many suppose it assists in forming the chyle.

#### TEARS.

20. The tears are secreted by the lachrymal gland, behind and at the corner of the eyes. They have a salt taste, and are inodorous.

21. The above are some of the principal secretions, and from what has been said of them you will again see how very important it is to possess good blood; for from this very blood is formed the tears, the gastric juice, the bile, the bones, &c.

22. There are little vessels situated all over the body, one of which possesses a fluid to make the finger nail; another, the joint; another, the bone; one has a substance which helps to give the eyes their beautiful colour; another to help to form the soft hair, and so on. All these little vessels have their respective offices to fulfil, which is done without any confusion, in perfect system and order!

23. Hence, we see that the work of secretion is a beautiful system, nicely arranged by our Creator, and should cause us to love and admire that great Being who has formed our bodies, and who sustains us by His goodness and power.

24. What a wonderful body we have to keep in order! Just think of the heart beating—beating—more than one hundred thousand times in a day, month after month, for seventy or eighty years, without once being out of order.

25. Everything in machinery needs to be thoroughly repaired occasionally, however perfect the construction may be. A perfectly finished wheel will not always revolve without being oiled. The most beautiful house needs frequent repairs.

26. But such is not the case with our heart. It is ever faithful to perform its duty if we are only faithful in taking care of it. It never grows weary nor falls asleep—whether we are asleep or awake it is untiringly at work.

27. Then what a perfect framework we have, finished and covered so nicely with skin and muscles! We have eyes for seeing and ears for hearing. We can discern pleasant odours and we can taste agreeable food. We should surely have feelings of gratitude to our Maker for all that He has done for us, and ought to feel under the greatest obligations to keep all these different parts in order—to form no foolish and evil habit which will weaken the powers of our bodies or the faculties of our minds. Some have naturally more vitality than others; but all can enjoy a measure of health for many years if they will but obey the *laws* of health.

28. All organised beings—by which I mean those that have functions or organs to nourish and sustain them—are limited in their periods of existence. The length of life in plants, animals, and man depends very much on the time which it requires for them to mature. Those which



mature or ripen quiekest soonest come to decay ; those persons whose bodies are perfected the quiekest die the soonest.

29. The little sapling has to grow a mauny many years before it attains to the full stature of an oak ; yet when it is matured it will live for ages, sometimes for a thousand years. The annual requires but a few months to briug it to perfection : we plant the seed—in a few weeks the tiny leaves appear, expand, bud, blossom, and the plant dies. The same holds true in regard to animals and man.

Man rarely comes to maturity before twenty or thirty years, and his life is proportionately long, being three seore years aud ten—seventy years—when he takes care of himself ; but some of the lower animals attain their full size and growth iu a few years, and searely ever live twenty or thirty.

30. Iu early youth, before thebody is matured, the functions—digestion, nutrition, &c.—are very active, and are rapidly performed. The braiu is larger, and the nervous system is then more developed than iu after periods of life. The child eats, his food nourishes his body, and he grows rapidly ; but although man eats a much greater quautity of food he can searely perceive any difference in his stature or size from one year to another.

31. There is a period when the body has attained its full growth, called maturity. When this period is reached there appears, for a little time, to be neither progress nor decline. Although there is in our system a power to repair all injuries which the body receives, to heal all wounds, and to uuite the bones, the body will finally decay, regardless of all our exertions to guard and preserve it.

32. We cannot see that this decay is necessary from the nature of the body, neither can it arise from the gratification of the artificial wants of civilised life, for savages do not retain their faculties as long as those who are in a civilised state. But it appears to be the order of Nature that man should live, theu die. When adult life has passed the organs begin to decay.

33. The nervous system is first affected ; the hearing, sight, &c., grow feeble ; the museles become stiff, hardened, and difficult to contract, so that they cannot well support the body ; hence old persons are inclined to stoop and totter, and therefore require the additional assistance of a cane or staff. Then the circulating system begins to decline, bony substaues gather around the veins and arteries, and thus interrupt the free passage of the blood. The lungs cannot breathe or inhale the air so well, therefore the blood is not so well purified.

34. Their systems become more feeble, till they are uo longer able to perform their various offices, and death ensues. Mauny accideuts are fatal to aged persons because their bodies become enfeebled, and can neither assist nor repair injuries as well as in youth. The bones of children easily unite ; but in after years there is a want of that strength and vigour, so that when the bones are shattered or iujured the injury cannot be well repaired.

35. Children, I hope by these few lessons and instructions you will have been incited to think more of the functions of your bodies, and that the older you grow the more you will become interested in this important study.

When you see flies walking and balancing themselves on the ceiling, think, and try to find out why they can support themselves there without falling. So of everything around you. Be not content to know that things *are* as you see them, but find out the *reason*, if you can. I hope you will now understand better than you did what physiology means.

36. I will give you another chapter on the instinct of animals, and will then leave this interesting part of the subject to speak of another part even more interesting, if possible, viz., the brain and nervous system.

QUESTIONS.—Name the subjects of Chapter V. 1. State what secretion means. How is the term used in physiology? State what two things this word comprehends. What is an example? 2. State what the advantages of secretion are. How important is secretion to health? Are the secreted substances similar to the blood? 3. How many kinds of secretory organs are there? State what the first kind is. State what the second kind is. State what the third kind is. 4. State with what the exhalant vessels are connected. State what internal exhalations mean. State where some of the internal exhalations are found? 5. By what is the fat caused? How is it formed? State what the synovia is, and where it is secreted. 6. State what secretion the long bones contain. State what the use of marrow is. How do we know that it does not strengthen the bones? 7. State what external exhalations mean. State what some of the external exhalations are? 8. State what the second division of secretory organs are. State what the follicles are. How does their secretion appear? State what is necessary for us to do that this secretion may pass off. State what the follicles in the ear secrete. State what is one cause of deafness. State what use the follicle at the root of the hair is. 9. Mention the third division of secretory organs. Describe the glands. Are the substances secreted by the glands similar to the blood? 10. Are these substances contained in the blood? State what produces the difference between them. Explain in what way this principle holds true in reference to different quantities of the same gas. 11. State what regulates all these different operations. State what the first fluid is that is secreted by the glands. 12. How is the saliva formed? How does it pass into the mouth? State what its principal use is. State what the properties of saliva are. 13. State what the second secretion of the glands is. State where the gastric juice is secreted. In what does it differ from the saliva? State what its use is. State what effect it has on our food. State when we judge the stomach of infants to be in a healthy condition. 14. State what the principal properties of the gastric juice are. 15. Does the gastric juice act on substances having life? State when this fluid acts on these substances. How powerful is it at times? State when this will take place. 16. In what manner has it been proved that these ideas of digestion are correct? State what facts were ascertained by means of this youth. 17. State what the third secretion of the glands is. State what organ secretes the bile. State what the properties of the bile are. State what some suppose the function of the liver to be. 18. Should persons ever have "bilious" stomachs? State why not. State when the bile is necessary to the stomach. 19. State what the fourth secretion of the glands is. State what organ secretes the pancreatic juice. State what the properties of this fluid are. 20. State what the fifth secretion of the glands is. By what are the tears secreted? State what these properties are. 21. What is a reason why we should try to have good blood? 22. Name some of the uses of the little vessels situated over the body. In what way do these vessels perform their respective offices? 23. How should we regard the work of secretion? State what feelings it ought to incite in us towards our Creator. 24. State why we should ever think of our bodies. Is there anything remarkable about our hearts? 25. What is a fact in regard to all machinery? How does this apply to a wheel or a house? 26. Does the same principle hold true with respect to our heart? 27. State what nice adaptations there are in our framework that should call forth our admiration. Under what obligations are we? In what way can all enjoy a measure of health? 28. State what organised beings are. Do they always exist? On what does the length of life in man, plants, and animals depend? Explain this fact. 29. What is said of the growth and duration of the oak? In what way does the animal differ from the oak? State what the difference is between man and the lower animals with

regard to maturity and decay. 30. In what condition are all the functions in youth? What is said of the brain and nervous system at that period? State what the effect of the food is. Has the food the same effect on the man? 31. What is meant by maturity? State what the condition of the body is at this time. Is there anything in our systems to enable us to resist injuries, &c.? Will this power always continue? 32. Do we know the causes of decay? State what appears to be one cause. State what takes place after adult life has passed. 33. State what system is first affected. State why aged persons require an artificial support. State what system decays next. How does this affect the blood? 34. When does death ensue? State why accidents are more fatal to the aged than to the young. What is said in regard to the bones of children? 35. State to what these lessons ought to incite and encourage children. Should the mind be contented by observation alone? State what we always should endeavour to ascertain. 36. State what subject will be explained next.

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## CHAPTER VI.

### INSTINCT.

1. There is in many respects a great resemblance or analogy between man and other animals. Some animals exhibit marks of skill, sagacity, caution, or judgment, and in many cases a power of reasoning almost equal to human beings.

2. Some suppose that every animal possesses all the faculties with which man is endowed, only in a much more limited degree, modified by circumstances but not guided by reason.

3. Whether this be correct or not we know that animals *show* as many of these different talents as it is possible without having the intellect of man. Sometimes they appear to be guided by experience, observation, and even reason. However this may be they are endowed with a principle that enables them to seek their food, build their habitations, and take care of their young, which is called *INSTINCT*. They have also the power to vary their *means* or course of action in order to accomplish certain ends, when circumstances vary or require this change.

4. Instinct is that which prompts an animal to act, without teaching from others, to follow a certain course which is best adapted to his wants and condition.

5. The reason of man has been called a "bundle of instincts;" yet there is a wide difference between the power of men and animals. Man improves from one year to another; his knowledge is the result of experience, observation, and reflection.

6. The dwellings of man differ in different countries and ages, from the hut of the savage to the palace of the king; though man constructed both the hut and the palace.

Beavers build the same kind of houses now that they built many hundred years ago; and so of all other animals. There is no improvement from one generation to another; they always continue the same.

7. Smellie says there are two kinds of instincts; one kind which the animal can scarcely help obeying without any instruction or experience; and a second kind by which they can accommodate themselves to peculiar situations, and can also improve by experience and observation.

8. I will relate some anecdotes to you which illustrate these different instincts in some of the different animals; and though it may *seem* to

you impossible that these are true, yet I shall mention none except those which I know to be true by having witnessed them myself, or those related to me by friends who have seen them, or those given by different physiologists as facts. So you may believe them all.

9. Young birds always open their mouths at every noise they hear, because they think it is their mother's voice, and that she is bringing them food. They do not use their wings till they have gained strength and have observed in which way mother-birds use theirs.

10. Insects place their eggs in the most favourable situation for their young. All those whose young feed on vegetables place their eggs on the surface of the water.

11. The wasp builds her nest, deposits her eggs in it, then brings just enough green worms, which she rolls together so that they cannot move, and then leaves them as nourishment for her young. She does not wish them as food for herself, but knows that they are the best nourishment for the little young wasps. Dr. Darwin relates a fact which he saw himself. A wasp caught a fly almost as large as her own size. She cut off its extremities and tried to fly away with the body, but found that, on account of a slight breeze, the fly's wings impeded her own flight. She came to the ground, cut off first one and then another of the fly's wings with her mouth, and then flew away.

12. Bees exhibit a wonderful sagacity. They choose their queen, and then build their cells, which are very neatly and beautifully constructed. When they increase so much in number that the old hive is not large enough to contain them they choose their queen, swarm, and seek a new home. If there is not room for all their operations they increase the depth of their honey cells. Those who wish to find the honey of those bees which have strayed away in the woods, and have built their nests there, catch two bees, carry them to a distance, and then let them fly; each takes the straight line towards the nest or hive, and by observing these lines the hives may be found in the direction where they cross each other.

13. Sometimes bees stray away and build their hives in the trunks of hollow trees. There was a large tree cut down in a certain place, and near the root a great many layers of honey were found; the bees had probably deposited their honey in it for many years. Bees are industrious insects, and will not permit any drones—those bees which will not work—to live with them, but they will assist each other.

14. The spider and many other insects exhibit a kind of singular instinct. If you touch a spider with your finger he will run away as swiftly as he can; but if he finds that he *cannot* run in any direction he draws his feet together and lies perfectly motionless, feigning to be dead; and if he be torn by pins he will not show the slightest signs of suffering.

15. Ants generally make their nests on the ground; but in Siam they build them on trees, because that country is often flooded with water, and people, they say, are obliged to build their houses on long poles.

16. There are some birds that always move to a warm climate as soon as winter approaches. They go at a particular time, and return again at a particular season.

When birds have liberty to do as they please they always build their nests of the same material—the same mud and straw, and in the same spot, year after year.

17. Sometimes they wholly change their mode of building, especially in those countries where snakes abound. The bird hangs its nest on the branch of the tree, and makes the opening of it at the bottom, so that should the snake crawl up the tree to the limb it could not get into the nest to take the eggs.

18. There is a certain bird that has been seen to catch grasshoppers and fasten them to the twigs of trees where the little birds were accustomed to come. What could be her motive for doing this? for she never eats them herself. The reason was this: her instinct taught her that little birds were fond of grasshoppers, and, as she was very fond of little birds, she put them there for a bait to decoy and bring them to that place, so that she might catch and eat them.

19. A swallow once slipped its foot into the noose of a cord, and by endeavouring to escape drew the knot tight, so that he could not get away. He raised a most piteous cry, which drew a large flock of swallows around him. When they perceived his condition each one struck the cord with his beak till it was broken, and their companion was freed.

20. When two goats meet on a narrow ledge of rock over a precipice and see that there is no room to pass each other, after stopping a moment one crouches down and permits the other to walk gently over his back; then each one continues his journey along the narrow and dangerous path. Certainly they show a more accommodating spirit than some men do.

21. There was a certain cat, which frequently went into a close, the door of which was fastened by a common iron latch. When the door was closed, and she wished to come out, she mounted on the bench of the window, which was near the door, and with her paw lifted the latch and came out. This she did for many years. Another cat which lived with a friend of mine was accustomed to come to the kitchen door every morning at precisely five o'clock, open the door with her paw, and come into the house.

22. The same family had a dog which would jump and be very uneasy as soon as he saw any of the men in the family put on their coats as if to go out. If they had told him in a quiet tone that he might go with them he would lie down quietly at their feet; but if they told him he could not go he would skulk away under the table.

23. Dogs possess a remarkable degree of instinct, sagacity, or understanding. In Switzerland there are high mountains, the tops of which are always covered with snow. Sometimes the snow falls on them suddenly in such large masses that houses and travellers are buried. There is a convent among the mountains called the St. Bernard, where the monks keep a particular kind of dog that they send out after a snow-storm in search of travellers, whom they frequently dig out of large banks of snow and save their lives.

24. There are hunting dogs in Mexico which assist in catching and killing deer. The weight of the deer is generally six times as great as their own, so that if they should attack them in front they might be killed or have their backs broken. Instead of this they attack them at

the side, or at the back, and when the deer starts to run the dog throws him over. Some dogs will take a basket and go every day to market to get their dinner. They can always find their master by smelling his tracks along the ground, even if he is at a great distance, and, if possible, will never leave him.

25. Many interesting anecdotes are related by different writers about the sagacity of the elephant.

When tamed it becomes the most gentle and obedient of all animals. It can be taught to kneel to have a chariot or any load put on its back, which it carries easily. They sometimes exhibit shame and ambition. They were formerly used to assist in launching ships. A certain one was employed to take a large vessel into the water, but it was too heavy for him. When his master saw that he was incapable to perform his task, he said, "Take away the lazy beast and bring another." The creature heard this and made another effort, but broke his skull and died on the spot.

26. In a certain city, an elephant, in passing along the streets, put his trunk into the window of a tailor's shop, where several people were at work. One of them pricked the end of it with a needle. The animal passed on as if he did not perceive the insult; but when he came to a puddle of muddy water he took some in his trunk, went back, and threw it all over the men, and spoiled their work.

27. An artist in France wished to paint the elephant with his trunk raised in the air, and his mouth open. So a boy was employed to throw fruit into his mouth, to keep him in this position; but as he frequently deceived him he at last became angry, and one day took some dirty water in his trunk and threw it all over the painter's picture, as if he knew that this was the most effectual way by which he could vent his spite.

28. A child that could not walk was left to the care of an elephant. As soon as the child crawled to the extent of the elephant's chain he would quietly lift it with his trunk and replace it in the spot where it was first left. They formerly went to the battle-field with the Burmans to help them to carry on their war. When an extra task was to be performed, some favourite dainty was held out to the elephant before the time; and he, as if aware that his success would be rewarded, made double exertions to earn it and please his master.

29. The beaver is also a very remarkable animal. In countries where they abound they gather together in large companies, and in summer make excursions into the woods to choose the trees they wish to use in building their huts. They select a spot in a lake or river, and then gnaw down the trees; and they always gnaw them in such a manner that the trees will fall into the river.

30. They build their houses large enough to contain from fifteen to thirty beavers. Each cabin has two doors—one on the side of the land, and one leading to the water, so that they can either go ashore or swim in the water. They plaster their cabins with a strong cement of mud, using their flat tails to smooth it. Their houses are very strongly built, and can resist strong winds and currents in the stream. Sometimes they have paths under the ground, where they can retreat when any danger approaches.

31. The ostrich is one of the tallest and swiftest of all animals. When it is chased it throws stones and gravel with its feet at its pursuers.

32. Oysters throw water out of their shells when they are attacked, as if to vent their spite against their enemy.

33. A certain pony would open the latch of the stable-door, and raise the lid of the corn crib, which he learned to do himself.

34. Monkeys possess a high degree of instinct, and resemble man more than any other animal. The teeth and paws are very much like our teeth, hands, and feet. In their wild state they live in the woods, on the trees, and feed on fruits, leaves, and insects. They live together in companies, and never go alone when they wish to rob an orchard or find their food. It seems as if they laid regular plans; for, as has been remarked, part of them stand to watch the approach of enemies, and part enter the field. They form a straight line, reaching from those within to some placed beyond, which is a retreat for them.

35. When they are all arranged in due order, those in the orchard, near the trees, throw the fruit to those outside as fast as they can gather it. These pass it over to those nearest to them till the fruit is all nicely lodged in their hut or retreat. If the one who acts as sentinel perceives anyone coming he makes a loud noise, and they all run away; yet, even then, they will take some fruit under each of their arms or fore-paws, and also in their mouths.

36. They are mischievous animals, and annoy travellers exceedingly by throwing sticks and stones at them; and they will frequently follow them for some distance, when they are passing through the woods by leaping from tree to tree. They are capable of forming strong attachments even with other animals, and then exhibit mildness, affection, and docility.

37. Monkeys and orang-outangs can be taught to do almost anything that we can. They ride on ponies, feed themselves with a spoon, and appear to understand what is said to them. The great naturalist, Buffon, speaks of one orang-outang which would present his hand when any one came to see him, and would walk along with great composure. He would sit down at the table, unfold his napkin, wipe his lips, and use a spoon or fork to convey the food to his mouth.

38. When he was asked to drink tea, he took a cup and saucer, placed them on the table, put in the sugar, poured out the tea, and allowed it to cool before he drank it; all of which he performed by the signs or orders of his master. Another would, by signs, make the servant understand what he desired; if his wishes were not granted, he would bite him and throw him down. When he was sick he was bled, and ever afterward, when at all unwell, would hold out his arm to be bled, just as if he understood that he had been relieved by such an operation before. They sometimes carry water from a river in pitchers placed on their heads. Frequently when the pitchers are not taken off they fall and break, at which the orang-outang moans greatly.

39. I might tell you many more interesting facts and anecdotes about the habits of animals. We find they seem almost to possess the intellect of human beings. This appearance of intelligence has been called, by nearly all physiologists, instinct. Yet when I speak of the elements

of our own minds you will see that animals possess some of these same elements, and I will then attempt to explain from what they arise.

QUESTIONS.—Name the subject of Chapter VI. 1. Is there any resemblance between man and other animals? State what some animals exhibit. 2. State what the opinion of some is with regard to the faculties of man and human beings. 3. State what certain knowledge we have respecting them. By what do they appear to be guided? State with what they are endowed. State what this principle is called. Say when they can vary their means of action. 4. State what instinct is. 5. State what the reason of man has been called. State what difference there is between the powers of men and animals. 6. State what is said of the dwellings of man in different ages. State what is said of the houses of beavers in different ages. 7. How many kinds of instinct are there? State what the first kind is. State what the second kind is. 8. How can these different instincts be illustrated? State whether these anecdotes be true or false. From what sources are they derived? 9. State what young birds imagine every noise is. Say when they use their wings. 10. Say where insects place their eggs. Say what kind are placed on plants. Say what kind are placed on the surface of the water. 11. How does the wasp provide for her young? Does *she* ever eat these worms? Say why she procures them. Say what anecdote Dr. Darwin relates of a wasp. 12. State what sagacity bees exhibit. Say when bees "swarm." Say what course they take when their cells are not large enough. How can we find the honey of those bees who have strayed away into the woods? 13. State where bees frequently build their hives. How has this fact been ascertained? 14. State what particular instinct the spider exhibits. 15. Say where ants build their nests. State what their custom in Siam is. For what purpose? State what people are obliged to do there. 16. How does the climate affect birds? How do birds generally build their nests? 17. Do they ever change their mode of building? Say where this takes place. How does the bird endeavour to avoid the snake? 18. State what the custom of a particular kind of bird is. Explain why she does this. 19. Relate the anecdote of the swallow. How did the other swallows express their sympathy? 20. In what way do two goats accommodate each other? 21. Relate the anecdote of the cat. State what the custom of another cat was. 22. How did a dog exhibit great understanding? 23. State what powers dogs generally possess. State what is said of the mountains in Switzerland. State what convent is situated there. For what purpose do the monks keep dogs? 24. State what is the use of the dogs in Mexico. How do they show great sagacity? In what way can dogs find their masters? 25. State what some of the peculiarities of the elephant are. State what feelings they sometimes exhibit. For what were they formerly used? How did unkindness affect one? 26. Relate the anecdote of the elephant and the tailors. 27. Relate the anecdote of the artist and the elephant. State why the elephant spoiled the picture instead of insulting the boy. 28. State what care they will take of children. Of what assistance were they to the Burmans? In what way can they be excited to make exertions? 29. State what remarkable traits the beaver has. In what way do they gnaw the trees for their huts? 30. How large are their houses? How many doors do their cabins have? State what the design of having two is. How do they plaster their cabins? For what purpose do they have paths under the ground? 31. How does the ostrich compare with other animals? How does it defend itself when chased? 32. How do oysters defend themselves when attacked? 33. State what is related of a certain pony. 34. State what monkeys possess. In what do they resemble man? How do they live when in a wild state? State what course they take when they wish to rob an orchard. Do they live alone or in companies? 35. How do they proceed when they are all arranged in the orchard? How are they warned of the approach of danger? State what effect the warning has. Do they run and leave all their fruit behind? 36. How do monkeys annoy travellers? State what is said of their attachments. 37. State what some of the things are that monkeys and orang-outangs can be taught to do. State what interesting facts Buffon relates about an orang-outang. 38. How did this animal drink his tea? In what way did he understand his master's wishes? State what other facts you can relate about these animals. 39. State what animals seem to possess. State what this is called by physiologists.



# FAMILIAR LESSONS ON PHRENOLOGY,

DESIGNED FOR THE USE OF SCHOOLS AND FAMILIES.

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## CHAPTER I.

### THE BRAIN AND NERVOUS SYSTEM.

1. Children, you have learned something respecting the construction of your bodies. I will now tell you about your minds, your brain, or, in other words, the nervous system which includes the brain, spinal marrow, and the nerves.

2. You all know that you have minds or souls, for you think, speak, and act; you are conscious when you have done right, and when you have done wrong; you are happy or unhappy; you cry and you laugh; you sing and you play; you run and you walk. What is it that prompts you to do all these things, and many more?

3. Some of you may say, it is my bones, or my muscles, my heart, my blood, or my stomach, which induces me to act and move. No, my dear children. It is true that we could not move without these bones and muscles, and that we could not live without a heart, stomach, &c., but it is not these alone that direct and prompt all our movements.

4. The functions of absorption and circulation which are carried on, as you have learned, by the heart, stomach, lungs, &c., take place also in all vegetables. The plant imbibes the air, draws it in by means of its leaves, and after the part has been taken that is good for its nourishment, it sends it out again. If we had powers ne higher than plants we should be as they are, mechanical beings only.

5. But we have something within us—a mind or a soul—that impels all our actions. As I have stated, whenever we wish to do anything, our mind speaks, as it were, and tells the muscle to perform the act. Our bones and muscles are like the machinery of a steamboat or rail-road car; they are always ready to serve us. But as the machinery of a boat will not move without steam, so the bones and muscles, which are mere instruments of motion, will not move, when we wish to do anything, without the aid of the mind.

6. Listen, and I will tell you how the mind acts. You will remember that I informed you that the bones of the head, or the skull, served as a protection to the brain.

7. This brain is the seat of the mind or soul, and receives all the impressions that are made on various parts of the body. If the brain be injured, the body suffers. There have been many cases in which the skull was broken, and the brain disturbed, and in every instance the effects were much more serious than the most severe accidents would have been to any limb of the body.

8. Dr. Hayward relates the story of a beggar in Paris who lost a part of his skull by an accident. The brain was slightly covered by its membranes, and he was accustomed to allow any one who would give him a small sum of money to press on his exposed part. When the pressure was made he was always unconscious of what was going on around him, or where he was; but as soon as the pressure was removed his consciousness was restored.

9. You have probably heard of persons who had been stunned or made insensible for some time, from having received severe blows or accidents. People frequently remain in this state for a length of time, but finally recover.

10. That the brain is of great importance to us is evident from the fact that though it is a small part of the body yet it receives about a fifth part of all the blood that passes into it by means of four large arteries. It is also covered by a very hard substance called the skull, which renders it less liable to be injured by blows. The brain has a greyish colour. It is not hard like bone, but it is sometimes so soft that when it is taken in the hands it will run over the sides of them.

11. The brain has an irregular and wrinkled appearance. It looks just like a handkerchief when folded up, or like a piece of sponge, or scorched leather. The brain occupies considerable space when we take it in our hands, but it is harder, or more condensed, when it is enclosed by the bones.

12. The colour and appearance of the human brain are very similar to those of animals, yet it is considerably larger, in proportion to the size of the body, than that of almost any other animal. The human brain is four times as large as that of an ox, yet the body of the ox is five or six times as large as that of the human being.

13. There are two great divisions of the brain, which are the cerebrum and the cerebellum. The large brain or the cerebrum, is the upper and front part; the smaller, or the cerebellum, occupies the back and lower part of the skull. These are again divided from the front to the back of the head into two parts—the right and left, called hemispheres. The brain has three coverings or membranes under the skull, which assist in protecting it.

14. There are a great many little prominences or clefts in the brain. It was in one of these projections, at the base of the brain, that Descartes, a great philosopher, supposed the soul to be situated; but most people at the present day think that the soul or mind is connected with the whole brain.

15. The spinal marrow is contained in the spine. It is a long white cord extending from the brain, and is covered by a firm and strong membrane of bone. It is well for us that it is thus guarded from injury, for our lives and happiness depend very much on its safety. If this be injured or broken, all the membranes below the injured or broken part become insensible and useless.

16. A great quantity of small white cords, called nerves, proceed from the lower part of the brain, just below the cerebellum and spinal marrow.

17. The nerves pass from the brain and spinal marrow. There are ten or twelve pairs that proceed from the brain through the skull. The First Pair, called the olfactory nerves, proceed from the lower part of the brain, and are spread over the membranes of the nose, to enable us to smell.

The Second Pair, called the optic nerves, or the nerves of sight, lead to the interior of the eye.

The Third, Fourth, and Sixth Pair also proceed to the eye, but are merely connected with the muscles of the eye, and do not assist our sight at all.

18. The Fifth Pair, which have three branches, send one to the eye, others to the nose, the jaw, and the tongue. The nerves sent to the tongue are the nerves of taste.

The Seventh Pair are called the facial nerves, and are sent to the muscles of the face.

The Eighth Pair, called the auditory nerves, extend to the ears, by which we hear.

The Ninth, Tenth, Eleventh, and Twelfth Pair pass to the lungs, stomach, tongue, and to the muscles of the neck.

19. There is one very important nerve, called the great sympathetic, formed by little cords which rise from several of the other nerves. It extends along down by the spine, enters the chest and stomach, and sends branches to all the important organs. This seems to be a connecting link between all other parts of the body, so that when one part suffers, the others sympathise or suffer with it.

20. There are thirty nerves, called the spinal nerves, that pass off on each side from the spinal marrow. These are distributed to all the muscles of the body. They extend in every direction, and if all the remainder of the body should be destroyed except the nerves they would still present the appearance of a living body.

21. So minute, extensive and sensitive are the nerves that if we even prick our fingers the sensation is immediately conveyed to the brain. It is not the vein which gives us pain, for this is destitute of feeling; it is not the blood, for this is also insensible; but it is the little delicate, sensitive nerve that communicates the feeling to the brain as quick as thought.

22. The brain and spinal marrow are like two large rivers, and all the little nerves are like so many little streams. It is well, therefore, that there is a connection between the brain and the different parts of the body, and that the nerves do produce feeling and sensation. We might hold our hand in the fire till it was consumed if there were no nerves to tell us when the fire was too hot; we might take food into our stomachs so hot that they would soon be destroyed if we had no nerves in our mouths and throats to enable us to moderate the temperature of our food.

23. Though these nerves frequently cause us much pain and trouble, yet if they did not serve as restraints to us, we might injure our bodies, every day, until they would be unable to sustain us. Let us therefore take care of them, for if they be injured, the parts of the body where they are situated become useless or motionless.

24. It is the nervous system which gives animals a higher rank than vegetables. The lowest animal has some nerves; and the more elevated the animal the more extensive and perfect is his nervous system, up to man, in whom it is found in perfection. Man is universally acknowledged to be far superior, naturally, to the brutes, although he does not always use his powers to the best advantage.

25. It is, and has been generally admitted that the brain is the seat of the mind; but this general idea was not sufficient to satisfy every one. Dr. Gall, who lived in Germany, nearly a hundred years since, was one of those who were not satisfied with this explanation. He was a very inquisitive lad when young, always looked around him, and thought about what he saw.

26. He noticed amongst his school mates that some of them were very generous and amiable, some selfish, some obstinate and cruel, others kind and affectionate. He found that one liked the study of arithmetic, another could commit to memory, and so on. When reflecting on these things, the thought occurred to him that there was always harmony in the works of Nature, and that there was a cause which produced every effect. He became convinced that there must be a cause why he could not recite his lessons as rapidly and freely as some of the other boys. He was very observing, and soon saw that all those scholars who could recite their ideas so well had large full eyes.

27. When he attended the university he made the same observations and reasoned somewhat in this way: "The brain is said to be the seat of the mind. Perhaps there is, therefore, a portion just behind the eyes which enables all those in whom it is developed to learn their lessons and repeat them when learned."

28. "If this be correct, then why are there not other portions for different functions of the mind?" He noticed the head of everybody he saw; he visited schools and prisons; he collected all those who are particularly prone or inclined to cruelty, and found that *all* those had a little prominence over their ears. He then collected those who were interested in other things, and found that those resembled each other also in the shape of the head. He was finally satisfied that there was a distinct portion of the brain for every distinct faculty of the mind.

29. He became a distinguished physician. Being still deeply interested in his new discoveries, he and his pupil, Dr. Spurzheim, a very intelligent and scientific gentleman, lectured and travelled through many of the countries of Europe; and though many would not listen to them, yet *they* had not a shadow of a doubt as to its truth.

30. They called this new science, *Phrenology*, which means "The science of the mind."

31. The eyes are never in the back part of the head, neither is the nose, nor the mouth. We never see by the mouth, neither do we hear by the eyes. There is a separate nerve for seeing, proceeding directly to the eyes; another for hearing, to the ears, and these are always the same.

32. We say that the brain is divided into many different parts, just like the rooms of a house, called organs, and that different emotions or faculties of the mind are located or situated in these different parts. So wherever there is an organ of the brain, it always manifests itself in the same way, as much as the optic nerve always produces sight, and the auditory nerve hearing.

33. If one part of the brain be used more than the others, that part grows, just as certainly as the right arm of the blacksmith becomes larger than the left when he uses it every day, for then there is more blood sent to sustain it. The same holds true with respect to every portion of the brain.

34. It may seem strange to you, children, that any one can tell by the shape of the head whether a man is good, kind, or benevolent, but if you will give me your attention, I will try to make it so clear that you will be able to understand it.

35. You know that one apple is larger than another, and so also is one head larger than other. We judge *something* by the size, but, as the smaller apple sometimes has a better and richer flavour than the larger, so some heads are very large in consequence of disease, as in case of hydrocephalus, where water collects in the brain, and swells it to a great and unnatural extent. The body must be in a healthy condition for the mind to act freely and vigorously; but more of this hereafter.

36. PLAN OF ARRANGEMENT.—As I have told you, all of Nature's works are perfect—everything is arranged with order and system. Every bone and muscle is adapted to the purpose for which it is used. The head is in its right position; also the hands, arms, and feet. The nerves that pass to the face, eyes, &c., are not situated low down in the body, so that sensation has to travel a great distance, but they proceed immediately from the brain, &c. We should also expect some order or method in the division of the brain.

37. When Dr. Gall first thought on this subject, and made his discoveries, he found first one organ in the back of the head, another in the front, and another at the side; but on considering them together, he saw that they were all arranged in groups or companies, all that had any resemblance being near each other, just the same as the stars in the heavens are arranged in groups.

38. I will first tell you the general division or arrangement, and will then explain the meaning of each one of the organs, and their application.

39. SOCIAL ORGANS.—(1) Amativeness. (2) Philoprogenitiveness. (3) Adhesiveness. (4) Inhabitiveness (A. Union for life). (5) Concentrativeness.

40. SELFISH PROPENSITIES.—(6) Combativeness. (7) Destructiveness. (8) Alimentiveness. (9) Acquisitiveness. (10) Secretiveness.

41. SELFISH SENTIMENTS.—(11) Cautiousness. (12) Approbativeness. (13) Self-esteem. (14) Firmness.

42. MORAL AND RELIGIOUS SENTIMENTS.—(15) Conscientiousness. (16) Hope. (17) Marvellousness. (18) Veneration. (19) Benevolence.

43. SEMI-INTELLECTUAL SENTIMENTS.—(20) Constructiveness. (21) Ideality (B. Sublimity). (22) Imitation. (23) Mirthfulness.

44. PERCEPTIVE FACULTIES.—(24) Individuality. (25) Form. (26) Size. (27) Weight. (28) Eventuality. (29) Time. (28) Colour. (29) Order. (30) Calculation. (31) Locality. (34) Tune. (35) Language.

45. REASONING FACULTIES.—(36) Causality. (37) Comparison (C. Human Nature. D. Suavity).

QUESTIONS.—What is the subject of chapter first? 1. About what children now learn? What does the nervous system include? 2. What are all conscious of possessing? What are some of the evidences that we have souls or minds? 3. How would some account for these emotions? Are their ideas correct? 4. What functions have vegetables in common with human beings? How are these functions performed? What should we be if we had no higher powers than plants? 5. What impels our actions? What do our bones and muscles resemble in a steamboat? What is necessary in the boat besides machinery? What is necessary to produce motion besides bones and muscles? What are the bones and muscles? 6. What is the brain? What does it perceive? 7. What relation is there between the brain and body? How do accidents on the brain compare with those on other parts of the body? 8. Relate the story of the beggar in Paris. What was the effect of pressure on the brain? What took place when the pressure was removed? 9. What is said of persons who have been stunned by receiving accidents? 10. From what do we infer the importance of the brain? How does the blood pass into the brain? What are some of the properties of the brain? 11. What is the office of each fold of the brain? What is the appearance of the brain? What does it resemble? When does the brain occupy the most space? 12. In what respects is the brain of man similar to that of animals? Is the size of the brain always in proportion to the size of the body? How do they compare in the ox and man? 13. What are the great divisions of the brain? Which is the cerebrum? What other divisions are there in the brain? 14. Is the surface of the brain smooth and uniform? Where did a certain philosopher suppose the soul to be situated? Where do most people at the present day place the soul or mind? 15. What does the spine contain? Describe the spinal marrow? Why is it necessary that the brain should be well-guarded? 16. What are the nerves and from what do they proceed? 17. How many pair of nerves proceed from the brain? What is the first pair called? Where do they proceed, and what is their purpose? State what the second pair are called. State where they proceed, and what their purpose is. Where do the third, fourth, and sixth pair lead? What is their use? 18. Where do the branches of the fifth pair lead? What are the nerves which are sent to the tongue? What is the seventh pair called? Where do they lead? What is the eighth pair called? What is their function? Where do the ninth, tenth, eleventh, and twelfth pair proceed? 19. What is the name of one of the most important nerves? Of what is this composed? Where is it situated? Why is this nerve important? 20. How many nerves pass from the spine? What are they called? Where do they extend? 21. What takes place when we prick our fingers? Why is this effect produced? Why does not the vein give us pain? Why does not the blood give us pain? What is it that communicates sensation to the brain? 22. What are the brain and spinal marrow? What are the little nerves? What wise relation is there between the nerves and the brain? What would be the results if we had no nerves?

23. Of what are the nerves the cause? What service are they to us? Why should we take care of them? What is the great difference between animals and vegetables? Has every animal nerves? Who has a perfect nervous system? Where does it place man in the scale of living beings? 25. What is the brain generally admitted to be? Did this general idea satisfy every one? Who was Dr. Gall? 26. What did he notice among his schoolmates? What did this lead to him to do? What was the result of reflection? Of what did he feel convinced? Did he ascertain the cause of this difference between his schoolmates and himself? 27. How did he reason on this subject? 28. If one part of the argument was correct, what did he think of the rest? What course did he next take? What did he ascertain to be true of all those who were interested in the same things? What was his final conclusion? 29. What was his profession? Did he lose his interest in his new discoveries? Who was Dr. Spurzheim? How did Dr. Gall and Dr. Spurzheim attempt to extend their new science? 30. What did they call their science? What does Phrenology mean? 31. What is said of the features of the face? Do we always see and hear by the same nerves and organs? 32. In what way is the brain divided? What are situated in these different parts? What may we expect when there is an organ in the brain? 33. How does use affect the brain? Why does the right arm of the blacksmith become larger than the left? 34. What idea may appear strange to children? Can it be explained so as to be understood? 35. What influences our judgment? Is size always a correct test of the quality? In what cases is it not? In what state must the body be for the exercise of the mind? 36. What plan or arrangements do we find throughout nature? What is said of all the bones and muscles? What is true of the nerves? In what should we also expect order and method? 37. Did Dr. Gall discover each organ in its regular order? What beautiful arrangement did he find when he considered them together? 38. What will be first considered? What will then follow? 39. Name the social organs. 40. Name the selfish propensities. 41. Name the selfish sentiments. 42. Name the moral and religious sentiments. 43. Name the semi-intellectual sentiments. 44. Name the perceptive faculties. 45. Name the reasoning faculties.

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## CHAPTER II.

### THE SOCIAL AND DOMESTIC ORGANS.

The smaller brain, the cerebellum, contains the first organ in the social group—Amativeness.

**1. Amativeness.** DEFINITION:—Love and kindness between the sexes; a desire to marry, and preference for the society of the opposite sex. LOCATION:—This organ is located at the back of the head, behind the ears, and gives a fulness to the neck.

1. Every faculty of our minds, or function of our bodies, is given to us for a special purpose, which must be fulfilled to carry out the design of our Creator.

2. The organ of Amativeness gives all those kind of feelings of love that man shows to woman. Little boys, under its influences, love their mothers and sisters dearly; will try very much to please them; will like to wait on them and do them a great many little services; and as soon as they are old enough will be inclined to marry, that they may have some one whom they may love, and who will love them.

3. If girls have this organ large, they will be very attentive to their fathers and brothers; will speak kindly, and be polite and amiable to them. This is an important organ, and should be cultivated. I have heard brothers speak harshly to their sisters; but it was only those who had not the feeling of love, which they would have had if this organ had been large.

4. A little girl once asked her brother to take hold of her hand one morning when she was going to school, it being very slippery; but he said he could not stop for he wished to go and play with the other boys. This little boy would not have spoken thus if he had loved his sister as he ought.

5. It is this organ which causes husbands and wives to love each other as long as they live. Old men and women seem to be more closely attached the longer they live together.

6. If this organ be perverted, or used improperly, it is the means of making men and women very unhappy, and very wicked. When you are older you will understand more about it, and will pay more attention to the right cultivation of it. It is represented by a little blind boy Cupid, with a bow and arrow.

QUESTIONS.—What is the subject of chapter second? Which brain contains the first organ? What is its name? What is the definition of Amativeness? What is its location? 1. What is said of every faculty of the mind and function of the body? 2. What feelings does Amativeness give? How is this organ shown by little boys? 3. In what way do little girls exhibit this organ? Say what feelings it creates between brothers and sisters. 4. Relate the story of the little girl. 5. State what feeling it creates between husbands and wives. 2. State what the effects of the perversion of this organ are. How is this organ represented?

**2. Philoprogeneritiveness.** DEFINITION:—Love for children, animals, pets, and horses. LOCATION:—Philoprogeneritiveness is the second social organ, and is situated directly above Amativeness, in the back part of the head, and is number two in the Phrenological Head.

1. Children, when given to their parents, are very small babies. If there were no love for them, they would be neglected, and would suffer for want of proper care and attention. They are very helpless, and could be easily injured or killed. They require a great deal of time, care, and anxiety, to keep them alive and in health.

2. But the mother, if she has this organ largely developed in her head, loves her little child, and would not part with it, though she were required to devote all her time and attention to its care. She watches its growth, physically and intellectually, with intense interest, and notices every little motion of its body, or emotion of its mind.

3. Think, children, how much your mothers and fathers are doing for you every day. The only anxiety or question that presents itself to their minds, is, what can I do for these little ones that they may be fed, clothed, and educated. They often sacrifice their own pleasures and enjoyments for the sake of their children.

4. Hence, for this reason, if for no other, you should require the care and attention of your parents with love, obedience, and gratitude, and do all in your power to add to their comfort and happiness.

5. The mother, generally, has this organ larger than the father. This is a wise provision of nature, because she has more care of her little ones when they are not able to do anything for themselves.

6. There are some mothers—although I rejoice to say that the number is small—who feel it to be a burthen to take care of and educate their children; but it is only those who have not this organ large in their heads.

7. Children show this organ in a great degree. The little girl loves and dotes on her doll-baby, enters into all its feelings—as she imagines—sympathises with it, dresses it, places it in bed, and takes the same care of it that mothers do of their real babies. I have known little girls who had large families of dolls, and who gave each a different name. Sometimes, when they have no doll, they caress the little dog or kitten.

8. Boys show the action of this organ by their fondness for a horse; their desire to manage and drive one; or they desire to play with rabbits, dogs, or something of the kind, to gratify their strong love of the young and tender. If a boy has this organ large, he is generally kind to his horse and other animals. Some little boys cry piteously when an animal which they have petted, and on which they have bestowed their affection has died, or is lost.

9. A man in Schenectady, who was extravagantly fond of pets and children, had a very large bunch where this organ is situated. He very frequently went about the city with two little dogs in his overcoat pockets, and one in each hand, and was always surrounded by children.

10. Generally, you can very readily tell who has a love for little ones, by their conduct; and if you have a Sabbath school teacher or day school teacher who particu-

larly loves you, he or she most certainly has a prominence in the back part of his or her head.

11. This organ is represented by a mother and father who are fondling and caressing their children; also by a cat who is playing with her kittens.

12. In my chapter on instinct I told you that animals seemed almost to possess the intelligence of human beings—a something generally called instinct. When we say that instinct prompts all their actions, we cannot tell whence this instinct arises.

13. Man possesses a brain which prompts all his actions; and as all animals have some brain, therefore it is reasonable to say that their actions are the result of it. By careful observation it has been proved that as far as the brain of animals is developed, they exhibit the same traits and peculiarities that we do; and it has also been proved that the different portions of the brains of animals produce different actions.

14. The monkey is particularly attached to her young, and she has a marked prominence in her skull, immediately above Amativeness, and so of all other animals that have a particular care for their young.

15. Do not forget the name of this organ, although it is a long one, but always remember that Philoprogenitiveness gives love for young.

QUESTIONS.—Name the second organ of the social group. Give its definition. Give its location. 1. State the size of children when given to parents. State what the consequence would be if parents had no love for them. State why they require much care. 2. And what is the influence of Philoprogenitiveness on the mother? State what she watches with interest. State what children should remember. State what the greatest anxiety of parents is. 3. State what parents often do for their children. 4. How should they requite the love and attention of parents? 5. In which parent is this organ the largest? Say why this fact is a wise provision of nature. 6. Are there ever mothers destitute of this organ. Say what it influences them to do. 7. Say who besides mothers show this organ. In what way does the little girl show this on her dolls? Say whom they caress if they have no dolls. 8. In what way do boys show this organ? Say with what feelings do boys regard animals when they have this organ large. Say what effect the loss of a petted animal has on them. 9. In what way did the man in Schenectady show this organ? 10. Say what we can generally tell by the conduct. Say what all those teachers have who love their pupils. 11. In what way is this organ represented? 12. State what all animals seem to possess. Say why we are not satisfied in saying that instinct prompts the actions of animals. 13. Say what the brains of men do. Have animals a brain? State what we then infer. Say what observation has found to be true. Say what is true of different portions of the brain of animals. 14. Say what is said of the monkey in relation to this organ. 15. Say what children must not forget. State what Philoprogenitiveness means.

**3. Adhesiveness.** DEFINITION.—Fondness for friends, attachment, desire to live in society, and to be surrounded with friends. LOCATION.—Adhesiveness is situated on both sides of the back of the head, just above and outward of Philoprogenitiveness.

1. You see two friends with their arms around each other, engaged in social conversation. This a manifestation of Adhesiveness; or, in other words, when we see persons very fond of having warm-hearted friends to associate with them, and very desirous of companions, we shall find this organ large in their heads.

2. I have often seen little girls, who choose some particular ones among their schoolmates, confide to them their little joys and sorrows, and walk to and from school together. I have seen boys, also, walk in the street with their arms twined round each others necks, and always in each others society. They say they love each other very much, and I am sure that their happiness is thus increased. I presume all persons have some one whom they call their friend.

3. It is right, children, to exercise this organ. We should be very cold-hearted if, living as we do, surrounded by our fellow-beings, we felt no interest in them, and did not wish to associate with them. Suppose, in attending school, you should form no attachments with your schoolmates, recess would not be welcomed, as it now is, as a fine time in which to play with them. You would no more desire to fly your kite, to jump the rope, or to amuse yourselves in a great many other ways as you now do, if you had not kind friends to share your sports, and to engage with you in the frolic.

If men and women had not this organ large, we should not have as many handsome, thickly-settled villages as we now have. People would live alone in the wilderness, or in the thick forest; but now, when a family moves to a new country, where they are compelled to cut down the trees for room to build their house, another family goes, and then another, till what was once a forest of trees becomes in a few years, a large village, with houses, stores, churches, &c.

5. Yes, children, make friends; treat them kindly, and you will be more happy than if you lived alone, with no ties of love and affection.

6. This feeling of attachment is also seen among animals. They rarely ever live alone. Birds live and fly in companies. One bee never lives alone in the hive, but hundreds swarm together. One beaver never builds his hut alone, but a company of beavers associate, and each performs his particular part. Sheep skip and play together in the open field. This is true of almost all animals, and they, with us, have a little prominence on their skulls, caused by the development of brain which we call Adhesiveness.

7. Dogs have a large organ of Adhesiveness, and they evince the most devoted attachment to their masters. A man had a dog that was his constant companion by day and by night. He went with him when he hunted, and when he fished, and was always at his side. The man was taken sick and died. The dog would not leave his bedside, and after they buried his master, he refused to take any food. In about a week he was missing, and no one could tell where he had gone, till some one chanced to pass the grave-yard, and saw the poor dog dying, stretched on the mound where his master had been laid. This was a striking proof of true and sincere affection.

QUESTIONS.—Give the definition of Adhesiveness. Give its location. 1. How is it manifested? State what feeling Adhesiveness incites. 2. In what way do little girls exhibit this organ? In what way do boys exhibit this organ? State what reason they give for their conduct. State what almost all persons have. 3. State why it is right to exercise this organ. State what the effect would be if there were no Adhesiveness among scholars. 4. What would be the result if men and women had no Adhesiveness? In what way would people live? State what takes place now when a family moves to a new country. 5. Then what should all children do? Is this feeling of friendship confined to man alone? How do the bees show this feeling? How does the bird show attachment? The beaver? Sheep? State what all these animals have that exhibit this feeling. 7. Relate the anecdote of the dog. State what are particular characteristics.

**4. Inhabitiveness.** DEFINITION.—Love of home, attachment to one place, and unwillingness to change frequently. LOCATION.—Inhabitiveness is situated between the two organs of Adhesiveness, directly above Philoprogenitiveness.

1. You have all heard, children, the song "Be it ever so lowly, there's no place like home." There is a separate and distinct part of the brain which gives this feeling. When it is large, the spot which the person calls his home is to him the dearest spot on earth.

2. It is this feeling that makes the Irishman's poor and lowly hut, mostly made of mud and logs, pleasant and agreeable to him. The winds may blow around his dwelling; yet he cares not for the storm, if he and his friends are in their home, miserable though it may be.

3. This feeling is sometimes so strong, that persons are not contented unless they are at home. Especially do we love the first home where we sat in our mother's lap, shared in her endearments, and where our first juvenile sports were enjoyed. We experience emotions that are then impressed on our little tablets never to be forgotten.

4. How many are there—and I suppose the same will be true of you, children, if you live long enough—who leave their father's dwelling and are absent many years, and live many hundred miles from their parents, yet have a lingering desire to revisit the place of their nativity, and examine every nook and corner? They love to wander by the winding streamlet where they sailed their little boats; they love to walk the very street where they rolled their hoop, and they forget that they are old.

5. It seems to them that the trees are clad with the same leaves which pleased and sheltered them from the sun when children, the house where first their tiny infant feet pattered along, seems sacred; and as they retrace their steps to the mounds that cover the mortal remains of friends dear to their hearts, with tears of



affection they exclaim that there is no spot like their childhood's home; no place so dear as the place of their nativity.

6. An old man appears happy. Why? Because he is at home. The celd may whistle through the old roof, but it matters not to him, for he can sit at his own fireside at home, or under the shade of the tree that has grown old with him. It is pleasant for a family to gather around the warm fire, on a cold winter's night, and feel that all are at home.

7. You may have heard about Switzerland. It is a great many miles from New York. The people who live there are called Swiss. It is said that if these people are away from their country, and hear a Swiss air or tune peculiar to their nation—and they have them, the same as America has "Yankee Doodle," and "Hail Columbia, happy land"—it so stirs up and excites their minds, that it is said that sometimes even when about to engage in battle, they are obliged to lay down their arms and return home to Switzerland.

8. Those persons who are always home-sick when they are away from home, have a large organ of Inhabitiveness. Those who can go when and where they please without feeling sad and lonely, have the organ small, like a little boy in Newark, who runs away from his home whenever he can, and causes his parents much anxiety, and does not love them and his home as he ought.

QUESTIONS.—Give the definition of Inhabitiveness. Give its location. 1. State what feeling another part of the brain gives. State what its influence is when large. 2. In what way does this organ affect the Irish? State when he forgets the wind and the storm. 3. Say what state of mind it produces when very strong. State what we especially love. State what is said of the force of these early emotions. 4. State what desires many persons have who leave their homes when young. State what it delights them to do. 5. State with what feelings they regard the spots where they passed their early years. 6. State why the old man appears happy. State what is a source of great pleasure. 7. State where Switzerland is. State what the people are called. State what interesting fact is related about these people when away from their country. 8. State what causes some to be always home-sick when away from home. State what produces the opposite state of mind. Relate the fact of the little boy in Newark.

**A. Union for Life.** DEFINITION.—Desire to pair, to unite for life, and to be constantly in the society of the loved one. LOCATION.—Union for life is situated on each side of Philoprogenitiveness between Amativeness and Adhesiveness.

1. Though we have the organ of Amativeness, which leads the brother and sister to love each other and produces love between the opposite sexes, leading them to marry and live together, yet we also need that portion of the brain called Union for Life, which lies close by its side.

2. This is a more elevated faculty than Amativeness; for persons having only the latter, though they marry, yet often live unhappily when together, and even wish to separate their interest; but if Union for Life be large, the persons always adhere to each other through weal or woe, are desirous of sharing all their joys and sorrows, and of being constantly in each other's society.

3. All birds that pair have this portion of their brain developed, and those who do not, have a deficiency of this organ.

QUESTIONS.—Give the definition of Union for Life? Give its location? 1. State what we need beside Amativeness. 2. How do these organs compare with each other? Explain the difference. 3. In what way is this organ developed in words?

**5.—Concentrativeness.** DEFINITION.—Connection of thought and feeling, inclination to fix the mind on one subject till it is accomplished or finished. LOCATION.—Concentrativeness is situated immediately above Inhabitiveness.

1. How often children become impatient! Here is Clara; her mother has given her some sewing, and she said, or wished to say, that she has not patience to do it. She does not fix her mind on it enough to make the little muscles which lead to her hands come to her aid.

2. Said William, "I cannot do this sum in my arithmetic lesson. I've tried and I've tried, but all my efforts are useless." When perhaps he did not recollect that he was thinking all the time about flying his kite, or what he should do the next recess. "No," said he again, "I cannot possibly do it," and down went his slate and pencil, and he shut his book very impatiently.

3. "Well, I never did see how hard and difficult my geography lesson is. I don't see why my teacher expects me to find out all these little places on the atlas," said Harriet, one day. Little Harriet did not know why she could not learn her lesson; but the fact was, that she was nearly all the time thinking about one of the scholars who sat by her side, and very often her eyes were turned toward a window near her.

4. Listen, children, and I will tell you why she did not succeed. She did not fix her attention; she did not try to send away all thoughts but those connected with her lesson. Her thoughts were scattered everywhere. Precisely the same with Clara and William; if they had thought of nothing but their respective duties, they could have performed them very easily.

5. Does a man when he is building a house, make a window one day, then work a little on the barn, and then think he will transplant or set out a tree?

6. Suppose, when he was putting the shingles on the roof, he should think what a fine day it would be to go and ride, and so leave his work; do you think he would ever finish that work? No, indeed; but he must give his whole attention to his business if he wishes success. When he is plastering, he should plaster till he has finished; when he is painting, he should paint, and in this way only can he accomplish all he wishes.

7. Dr. H.'s son, a little boy six years old, will sit down of his own accord, and read stories in a book for four hours, without any interruption, or being in the least fatigued. He has a very large organ of Concentrativeness.

8. If a person has too much of this organ he will be prosy. He would never finish or complete his story. When he played, he would desire to play always; when he studied, he would desire to study always; nevertheless, children, if you wish to succeed in what you attempt, if you wish to become learned men and women, you must learn while young to fix your attention on what you do. You must learn to engage your thoughts in whatever you undertake. When you study, you must not think of play; when you play, think only of play for the time being; when you are at church, think only of what you hear said. This is what all who have ever become great and good men have done.

9. A gentleman is so much absorbed in his studies, that he does not even perceive that his arm-chair is on fire, and that the flames are gathering around him, and probably would not have perceived it, if he had not been aroused from his abstraction. I would not advise you to cultivate the organ to such an extent as this, although I would advise you all to learn patience, and to fix your attention.

10. I have now finished the description of those which are called the social or domestic organs. You have learned that we can love our brothers and sisters with warm affection; that husbands and wives can love each other devotedly; that love will spring up in the heart for the little precious infants committed to our care; that we can draw friends around us, and cherish their memory with devotion; and that we can all gather around our happy fire-sides, and enjoy the sweets of quiet home.

11. Children, if we cultivate these qualities properly, life will be a source of joy and happiness, however unpleasantly we may be situated; but without these feelings of love and kindness, our life would be but a blank. We are not aware of one half of the pleasure which we are capable of enjoying.

12. These social organs are the foundation on which all the others are built: and it is of vast importance in building, that the corner-stone or the foundation-wall be firm and correct.

13. These organs are in a group together. If it were not so, the order and beauty of the whole would be marred.

14. Think, children, on the preceding remarks, and, as you become older, strive to cherish proper social feelings; for with them we have warm hearts, without them we are miserable and selfish beings.

QUESTIONS.—Give the definition of Concentrativeness. Give its location. 1, 2. State what a very common thing among children it is. How did Clara show her impatience? 3. How did Harriet show her impatience? State what the reason was that she could not learn her lesson. 4. State why the efforts of these children were not successful. Might they have succeeded if they had confined their thoughts

to their duties? 5, 6. Illustrate the want of attention by the man building his house, &c. State what course he is obliged to take if he wishes to meet with success. 7. In what did Dr. H.'s son show large Concentrativeness? 8. State what the results are of having too much of this organ. State what is necessary for all to do who wish to become learned, or to succeed in what they undertake. 9. How is Concentrativeness manifested? Did this gentleman have too much or too little of this organ? State what all children must learn. 10. State what things we have learned from the description of the social faculties. 11. State what arises from the proper cultivation of these social faculties. State what the result is if we have no friendship. 12. How do the social organs compare with the others? State what is very important in a building. 13. Are these social organs scattered over the brain? State what the effect would be if this were the case. 14. State what all children should strive to cherish. Why?

## CHAPTER III.

### SELFISH PROPENSITIES.

**6. Combativeness.** DEFINITION.—Boldness, resolution, angry and contentious spirit. LOCATION.—Combativeness is situated just behind the top of the ear, on both sides of the head.

1. You will all perhaps have seen boys fighting or quarrelling. I have seen boys and dogs quarrel too. There are some boys who are continually cross and angry. Whether you speak to them kindly or not, they will not heed you, but will say "Get away," "I won't," and a great many other words which I call bad language, or at least such as is improper for them to use, especially to their parents.

2. I hope that there are not many children who say such naughty things; still, as I have previously remarked, I have known similar cases. This is one way in which Combativeness shows itself, and is a wrong way. Another way: Do you see that little boy running to school every morning? He does not stop for the heat, or the cold, the rain, or the snow; but he is always at school when it commences.

3. John's father said to him one day, "John, I have some hard logs to be sawed. I wish you to be a smart boy. What do you think about trying to do this for me?" "Well, father," answered John, promptly, "I will try, and I think I can succeed." John went to work, sawing and sawing. He thought to himself, "these are in reality quite tough logs to saw; I wonder where father got them; yet I am determined to accomplish it if I possibly can," so he tugged away, till finally the logs fell down on each side of him, and he felt very happy that he had made the attempt. His father, who stood near the window, looking at him, rejoiced that he had so smart and active a son. He had chosen these hard logs in order to teach his son to overcome difficulties.

4. This is the course that we should pursue when we have any task to do; we should set ourselves to work in earnest, and resolve that we will try, at least, if we do no more. This is what energy means, and without energy we can accomplish very little.

5. Suppose, when Fulton first thought about building a steamboat, he had said, "I cannot do it; it is useless for me to try anything so different from what is now in use. I will abandon my project." If he had not possessed uncommon energy, perhaps we should not now have been able to cross the ocean so easily and so rapidly as we do.

6. Some show the development of this organ by opposing everybody and everything. Said Richard to his brother, "Let us go this road to school this morning." "No," said his opposing brother, "I prefer the other," although he would not have thought of it if his brother had not proposed one direction.

7. There are a great many children, especially boys, who think that it is very fine and manly to refuse to obey the commands or to comply with the wishes of their parents, and oppose them in all their requests—which is decidedly wrong and should never be indulged.

8. This organ can be exercised in a right way, especially when joined with Firmness. Two lads were sleeping together; one said to the other, in a whisper, "There is a man under the bed and I suspect he intends to kill us." The courageous boy, only nine years old, believed what his brother said, so he jumped out of bed, and ran up in the dark for a light to the room where some of the family were sitting.

9. They asked him what the matter was. He told them "that there was a man under his bed, and he wished to go and see who it was, and tell him to go away." His father, pleased with his courage, said, "Shall I go with you?" "Oh, no," responded the boy, "he will not hurt us if I tell him that we will not hurt him; perhaps he has no other place where he can sleep; so let me go and ask him." They gave him a light, and though they knew that no one was there, yet they wished that he might be convinced by looking himself. Here, *Combativeness* was rightly exercised and for a good purpose.

10. You must endeavour to learn to decide when and how it should be used, and not do as you will sometimes see birds doing. If one picks up a kernel of corn, the other strives to get it away, and so they quarrel and contend till one is injured.

QUESTIONS.—Give the subject of chapter third. Give the definition of *Combativeness*. Give its location. 1. How do some boys always feel? Does kindness seem to affect them? State what naughty replies they make. 2. Say what produces that state of mind. Is this a right way to exercise this organ? State what another way is. 3. State what request John's father made to him. State what John's answer was. State what some of his thoughts were while he was at work. How did he finally succeed? State what the feelings of his father were. 4. State what our course should be when we have anything to perform. State what it is called. State why energy is necessary. 5. Had Fulton reason to be discouraged when making his discovery with steam? State what might have been the consequence to us if he had given up his efforts. 6. In what way do others show the organ of *Combativeness*? Relate the conversation between Richard and his brother. 7. State what some boys regard as a mark of manliness. Are these feelings right? 8. Can this organ be exercised in a right way? Relate the anecdote of the two lads. State what the courageous lad did. Say whether *Combativeness* was exercised in this case in a right or a wrong way. 10. State what important decision must be made.

**7. Destructiveness.** DEFINITION.—Resolution, energy, cruelty, desire to kill. LOCATION.—*Destructiveness* is situated on each side of the head, over the ears.

1. What is it that induces little children to tear their playthings in pieces? It is not because they do not desire these things, but because *destructiveness* is a strong principle of their natures. How soon most children take a delight in killing flies, sticking pins in them, &c., teasing dogs, killing birds, sporting with fish, treading on the cat's tail, throwing stones at the pigs, and hurting every innocent animal on which they can lay their hands. Why is it they do all these naughty things? It is because they have large *Destructiveness*.

2. It is this that makes hull-dogs fight and almost tear each other in pieces. You know, especially if you have ever lived in the country, how troublesome the little snappish, harking dogs are, that always run after carriages, and bark and growl as if they had been badly injured. It is *Combativeness* that causes them to hark, but it is *Destructiveness* that causes the larger dogs to bite and tear each other.

3. These little curs do not know of any better way to vent their angry feelings; but children, even very little ones, should learn to control their tempers. When you feel disposed to speak harshly, or unpleasantly, you must remember that you are only imitating the dogs, who have no minds or reason.

4. Two boys going home one day, found a box in the road, and disputed who was the finder. They fought a whole afternoon without coming to any decision. At last they agreed to divide the contents equally; but on opening the box, lo! and behold, it was empty. These boys had large *Destructiveness* and *Combativeness*.

5. You have all heard of wars and battles, where thousands of men meet each other in the fields, to wound and kill all they can. A great many of these men do not go there for the sake of their country; but disregarding the amount of sorrow and grief which they bring to many families, by taking the lives of fathers and brothers, they meet to gratify their desire to kill, to cause destruction. These men have large *Destructiveness* in their heads.

6. So have those persons who like to take the life of animals and birds, or to tease without cause or reason. You may have seen boys throwing stones at frogs in a pond for sport and amusement. They do not consider that "what is sport to them is death to the frogs," or they would choose more innocent pastimes and pleasures. These boys had large *Destructiveness*.

7. So has that little naughty boy who has been teasing his sister ; he has thrown down all her playthings which she had arranged nicely on the stool, and to complete her sorrow, has even torn off the head of her beautiful doll. He not only does not love his sweet and gentle little sister, but annoys her in every way that he can. Look at his countenance, and tell me if you think he is happy. This little boy has large Destructiveness.

8. So have all animals that have sharp teeth, and are carnivorous, or fed on flesh. It is a fact, that lions, bears, and other animals of that class, have broader heads than the sheep and other domestic animals.

9. I would not have you think that Destructiveness is a bad organ, and ought never to be exercised. Every organ and faculty which God has given to us, is good in itself, and was given us for a good and definite purpose ; it is only the perversion of an organ that produces bad effects in society.

10. By the perversion of an organ I mean the improper use of it. For example, our hands were given to assist us in doing a great many things necessary for our support and happiness ; our feet were given to us to enable us to walk ; but if we strike each other with our hands, or kick animals, or each other, with our feet, we pervert the use of these instruments given to us for our own good.

11. So with Combativeness and Destructiveness. These organs, if rightly exercised, produce spirit, force, and energy of character. They help us to overcome the many difficulties which are thrown in our way. With these, we are not affected by heat or cold, when we wish to do anything ; they help us to tame wild animals, and kill them, if necessary, for food.

12. Without these, people would be tame and insignificant creatures, and especially would never succeed in any plans or inventions if Concentrativeness were small also. We should not have had any railroads or steamboats ; the seaman would never have left his home to be absent three or four years, to catch the mighty whale, and bring us oil ; and all the great enterprises of the day would not have been undertaken.

13. If children had no Destructiveness, they would never wish to play, or to do anything that required any exertion, but would remain quietly at home with their mothers. But be very careful not to exercise this organ by striking each other, by being angry and revengeful, or by exhibiting bad tempers when you are young ; for all those bad men and women who finally die on the gallows, or are sent to our prisons, were permitted, when young, to indulge these bad feelings, till they had committed some crime for which they were arrested and punished.

14. Gibbs, the pirate, when a boy, amused himself with dog-fighting, and all other kinds of rough plays, to such a degree, that the coarser feelings of his nature obtained the ascendancy over the higher, better, and moral feelings.

15. You may say that if you have this organ, you must use it, and so cannot help yourselves. But this is not so ; for although some are naturally more inclined to deeds of wickedness or kindness than others, yet all can restrain their passions if they wish, and should strive against the indulgence of their wicked feelings.

16. I know a little boy who was naturally inclined to destroy and trouble all the cats, dogs, &c., he saw. His parents were aware of this propensity, and explained to him that 't was wrong to torture the innocent merely for his own pleasure, and often conversed with him on this subject. This produced so good an effect, that in the course of a few months or years, his whole disposition was changed, and he is now one of the kindest-hearted boys I ever saw, and is beloved by all who know him.

QUESTIONS.—What is the definition of Destructiveness ? What is its location ?

1. What is a strong principle of the nature of children ? In what way do some children delight to tease animals ? What induces them to do these things ?
2. In what way do bull-dogs show Destructiveness ? What is a great annoyance in the country ? What is the difference between Combativeness and Destructiveness ?
3. What allowance should we make for these dogs ? Can we make the same for children ? Why not ? What should children remember when they feel angry ?
4. Relate the anecdote of the two boys who had large Destructiveness and Combativeness.
5. How do many men show their Destructiveness ? What motive induces many to engage in the contest ?
6. In what way is Destructiveness shown ? What do boys frequently do for sport and amusement ? What do they not consider ? What organs did these boys have ?
7. In what way is this organ represented ?
8. What animals have this organ large ? What difference is there between the head of the lion and sheep ?
9. Is Destructiveness a bad organ ? What is said of every organ and faculty ? What produces bad effects in society ?
10. What is meant by the perversion of an

organ? How is this idea illustrated by the hands and feet? 11. What are the results of the right exercise of Combativeness and Destructiveness? What can we accomplish with them? 12. What without them? In what way does Concentrativeness act with them? How do these organs affect the enterprises of the day? 13. Why is Destructiveness necessary for children? Of what should children be careful? What is said of the youth of all bad men and women? 14. What were some of the amusements of Gibbs when a boy? How much did they influence him? What might some say in regard to this organ? Is this the case? What is true in regard to these things? Relate the anecdote of the little boy. What efforts did his parents make, and did they succeed?

**8. Alimentiveness.** DEFINITION.—A desire for food, appetite, gluttony. LOCATION.—Alimentiveness is situated immediately in front of Destructiveness, on each side of the head.

1. As I have told you previously, every faculty is given to us for some specific end. We have eyes for seeing, ears for hearing, and a nose for smelling; and when that portion of the head in front of the ears is swelled or is large, then we say people are fond of eating, and enjoy their food.

2. See two men very busy with their knives and forks, &c. They are eating and drinking; and this is what the greater part of our people do most of the time. They scarcely think of anything excepting what they are to eat. It is important that we eat; for if we did not, we should have no nourishment or vitality in our bodies, and we could not live. Alimentiveness causes or requires us to take food, to take drink; and this is right.

3. Sometimes, however, when this organ is too large, or has been unnaturally excited, it leads those persons to eat and drink to gluttony and intoxication. This is very wrong.

4. The perversion of this faculty leads to more misery and unhappiness than almost any other thing. How many hearts are saddened, how many happy homes are made desolate, because the father or brother has yielded to the appetite which asks for "rum, rum," and is not satisfied until rum is obtained. The perversion of this faculty also leads men to smoke cigars all day long, and chew that vile stuff, tobacco, not thinking how needless the expense is, and how disgusting the habit is to all around them.

5. Boys think they are almost men when they can get a piece of cigar to put in their mouths; and though it invariably makes them sick, yet they will take another piece as soon as they can get one.

6. Children, you have not yet formed this habit, therefore I would earnestly beseech you never to defile your mouths by such a poisonous and nauseous weed as tobacco in any form. It is not only an expensive and idle habit, but it also exhausts the saliva which you need in the mastication of your food, and injures your health in many ways. There are hundreds of young men who would give all the money they possess, if they could free themselves from this habit. One young man in this city has smoked to such an extent, that he is so nervous that he can neither read, study, nor enjoy himself in any way.

7. Some drink tea and coffee. They say that it does them no harm, and that they cannot live without it. They take it, they say, as a stimulant, or to excite them. In reality, it does excite their nerves, and their minds become weakened by it. It is better to drink clear cold water; the drink which nature has provided for us.

8. It is pleasant for us to enjoy food, and it is well that it is so; for if it were not the case many would become so much absorbed in their different pursuits that they would forget to eat, and would not take as much food as their nature requires; but it is equally an evil for us to eat all the time, as children frequently do—as I told you in a previous lesson. If you value your health and life, therefore, you must beware of eating too much when you are at table.

QUESTIONS.—What is the definition of Alimentiveness? Where is it located? 1. For what is every faculty given to us? What are examples of this? When do we say people enjoy their food? 2. How common is this practice? Why is it important that we eat? What assistance is Alimentiveness to us? 3. When should we not obey this organ? To what does it sometimes lead? 4. What is said of the perversion of this faculty? In what ways do men pervert this organ? What is not regarded? 5. What ideas have boys in reference to the perversion of this faculty?

6. What caution is given to children, and why? What are the effects of its perversion? What is a very common remark amongst those who have formed these habits? Relate the case of the young man. 7. In what way do others pervert this faculty? What is their excuse? What is the truth in the case? What drink is preferable? 8. What is a source of pleasure? What are its advantages? What is an evil? Of what should all be careful?

**9. Acquisitiveness.** DEFINITION.—Desire to acquire and lay up property, and hoarding disposition. LOCATION.—Acquisitiveness is located above Alimentiveness and part of Destructiveness.

1. See a man that is very much occupied in casting up his accounts, and counting over his money. He has dropped some pieces, and a lad is looking very narrowly for them, with a light, as if unwilling to lose the smallest piece.

2. What is it that prompts him to be so very careful to see that he has every copper that belongs to him? It is because he makes a god or idol of his money. 'Tis he people in heathen countries make little images of wood, stone, and clay, and fall down before them, and worship them as their gods. Some men think as much about their money, and would feel as sorrowful if they were to lose it, as a heathen man would if his gods, which he made with his own hands, were burnt and destroyed.

3. This organ of Acquisitiveness is a very useful organ, as I will show you; yet it is very frequently perverted.

4. People of all ages have exhibited the development of Acquisitiveness. Parents show it by acquiring property to support their families, and to give to others; children show it by gathering a great many playthings together to call their own, and in trading with each other; the miser shows it by hoarding his money, and by permitting his family to suffer without the comforts of life. There have been miserable creatures—curses rather than blessings to their country—who lived ragged, cold and hungry, and perhaps died from want, and left thousands of dollars to their relations, who rejoice at their death.

5. See an old man stretched on a pallet of straw. His enjoyments through life consisted in collecting all the money he could obtain; not that he might have the comforts and necessaries of life; not that he might be able to purchase books and knowledge; not that he might make his friends and family happy by spreading cheerfulness around the social board; no, his Acquisitiveness was his god; he lived on dry crumbs of bread that the dogs would scarcely touch, wore ragged clothes, suffered his beautiful daughter to waste away her life by her exertions to support herself and him; and then, in the silent watches of the night, when all God's creatures should have been at rest, he would hug his bag of gold to his bosom, count over his money, and rejoice that his gains were so great.

6. And when sick, and on his death-bed, he would have no friend near him but his gold, and died with his bag in his hand and his drawer of notes near his bed. Yes, died alone, with no soft hand to wipe away the cold sweat of death, or to cheer his spirit as it left its clayey tenement. His affections, his whole interests were absorbed in the one great idea—LOVE OF MONEY.

7. When children feel unhappy because they do not receive the largest amount of playthings, they have so much of an acquiring disposition, that it becomes selfishness; they wish everything for themselves alone, without sharing it with their mates or companions. Such selfish children will never be loved or respected by any one.

8. Another story to illustrate Acquisitiveness: Mr. A., who lived in M., sent some cherries by a gentleman to the town of B., for sale. When the gentleman returned, he called on Mr. A., and delivered to him the proceeds of the sale, and said, "This is your due as near as I can make the change, being within half-a-cent;" hearing which, Mr. A. replied, "Hem! I s'pose the children will expect their full due, as the cherries belonged to them." "Well," said the gentleman, "I am perfectly willing they should have all. If I could possibly make nearer change I would." "Hem!" responded Mr. A., "I s'pose they will expect the full amount of the cherries." "Well, sir, we will have no more words about it, you shall have it;" and, suiting his action to his word, he severed a cent with an axe, and handed one half to him. The old gentleman eagerly took it, and with an air of delight and satisfaction, put it in his pocket, saying, "It will do to make rivets."

9. This old gentleman had large and perverted Acquisitiveness. He was an old miser, and hardly lived comfortably. He was not beloved by any one, though he was very wealthy, and might have done a great deal of good with his money.

10. Some kinds of Acquisitiveness are right. It is proper for fathers to acquire property, to enable them to support their families; it is proper for us all to be economical, and not waste anything; it is perfectly proper for us to acquire books and instruction; but Acquisitiveness is too frequently perverted.

11. I have known some little girls to lift the cover off the sugar-bowl slyly, and take lumps of sugar when they ought to have asked their mothers for them. Some children take cents, apples, and nuts, whenever they can. They also take each other's marbles and playthings without permission.

12. This is STEALING. When we steal it is because we love to acquire; and if children steal small things when they are young, they will be very likely, when older, to take larger and larger things, till they become so much accustomed to it, that they will break into stores, and thus subject themselves to imprisonment.

13. If you take an apple or a few nuts from a stand in a street to-day, when the owner is not looking at you, to-morrow you may take something more valuable. I shall tell you more of the evil consequences of forming habits of this kind, when I explain to you what the conscience is.

14. One word more I have to say to you on this organ of Acquisitiveness; he willing to share your sweetmeats and playthings with your brothers and sisters; avoid stinginess and a hoarding disposition, yet be not wasteful or squander money foolishly.

QUESTIONS.—What is the definition of Acquisitiveness? What is its location? 1. What does the man represent? 2. What is his ruling motive, and what does it prompt him to do? What is the custom among the heathen? In what way does the man resemble the heathen? 3. What is said of this organ? 4. How common is this organ? In what way do parents show its development? In what way do children show it? In what way does the miser show it? What can you say of such persons? 5. Describe the miser. In what way did he show his ruling passion? In what way did he spend his nights? 6. What is said of his sickness and death? What was his great ruling passion? 7. In what way are children frequently selfish? What do they desire? Are such children happy? 8. Relate the anecdote of Mr. A. and the old gentleman. 9. What was the character of the old gentleman? What should he have done with his wealth? 10. What kinds of Acquisitiveness are right? 11. What do little girls do sometimes? What should they always ask? 12. What are the above practices? Why do persons steal? Why should children be very careful not to take small things when they are young? 13. Is it wrong to take an apple or a nut? To what may it lead? Under what head will this be more fully explained? 14. What should all children be willing to do? What should they avoid?

**10. Secretiveness.** DEFINITION.—Desire to secrete, to evade, or to deceive. LOCATION.—Secretiveness is located above Destructiveness, on both sides of the head.

1. See a cat creeping very slyly to catch a mouse. Nature furnishes her with something which is generally called instinct, that teaches her just what to do in order to get her prey. She knows that it would not be a very wise plan to run along mewing; she is very careful not to make a noise, lest she should frighten the mouse, but conceals herself as much as possible, while the mouse comes out after something. Oh that secretive little pussy, how she looks out of the corners of her eyes, as the mouse moves around the room! If we could look at her head, we should find that there is a large piece of brain on each side of the head, just above Destructiveness.

2. The spider and opossum have both large heads; and in my chapter on instinct, I told you that they were both cunning and deceptive in their nature.

3. Just so secretive some children are, who look all around them, to see if any one is looking at them. "Now, won't you ever tell anybody if I will tell you something very privately?" said Harriet to Ann, one day. "No, I certainly will not," was the answer. Then she told her a long, long story.

4. "My daughter," said Mary's mother to her little girl, "I think you have deceived me. I now wish you to tell me all about the matter, and I will forgive you." Little Mary has a large organ of Secretiveness, which she does not try to overcome, or to restrain; and although she loves her mother, yet she has so strong a desire to conceal her real feeling from every one that she thinks she cannot have even her mother see her little heart, and she will make a wrong statement of the affair rather than expose herself.

5. There are a great many things said or done by many persons, who really have no intention to tell falsehoods, which are nothing more or less than lies. They do not express themselves clearly, and bring out the whole truth.



6. Some conceal for the purpose of deceiving; as when a lady desires her servant to say she is not at home, when in fact she means that she is engaged, or does not wish to meet visitors.

7. We should be frank and open-hearted; we need not to disclose all our plans and operations to every one, neither express all our feelings and impressions; for in this way we often wound the feelings of others, when in reality we cherish feelings of kindness and love towards them; but we can be so free, clear, and honest, in our avowal of the truth, that every one will believe it to be the truth.

8. If we take a peep inside the schoolroom, we can see in what manner Secretiveness operates there. There is James; he pretends to study all the time; but observe him more closely, and you will perceive that he has one eye on the teacher, to see if he looks at him, while he whispers with Joseph, instead of studying.

9. Then there is Samuel; he has just taken a piece of candy out of his pocket, and holds up his book before his face, while he puts it in his mouth. What secretive children!

10. I once heard of a little girl, who said, in the morning, she had a bad headache. Her mother gave her permission to remain from school; very soon after her request was granted, before the school-bell rang, one of her schoolmates came into the room and told her that the teacher had given them that day for play. How soon her headache passed away and she was as bright and cheerful as a lark.

11. Every one of these cases is a deception; the children did not probably mean to deceive, yet they were not truthful. They wished to assume something to be that was not. These very children, when they become men and women, will perhaps deceive their visitors when they call to see them; or if they are merchants, or even mechanics, will deceive their customers, and give false measure, or poor articles for good. If you feel inclined to make a wrong statement when questioned, it is then time for you to correct and restrain this organ of Secretiveness, which, with proper care, will be a useful organ. If you wish to have truthful dispositions, cherish no deceptions of any kind, but be frank and open-hearted.

12. We have seen that we have not only portions of the brain that give us feelings of love to each other, and to our brothers and sisters; but we have what are called the Selfish Propensities.

They are called selfish, because, if not restrained, they will lead to selfishness. They are given to us to supply the wants of the body; and if we use them rightly, we shall find every one to be a very useful servant. We need Combativeness and Destructiveness to give us energy, to help us to overcome all difficulties, to give us true courage. We need Acquisitiveness and Alimentiveness; one to procure us food, and the other to induce us to eat it when obtained; and we also require the services of Secretiveness, to enable us "to put a guard on the door of our lips;" yet we should not use these different organs to fight, to contend, or to kill; to hoard money, to become gluttonous, or to deceive.

13. There is another class of faculties more elevated than those I have been describing, yet somewhat similar in their nature to the selfish propensities. In order to name or designate them properly we call them selfish sentiments, as they are not sufficiently elevated to be classed with the moral sentiments.

QUESTIONS.—What is the definition of Secretiveness? Where is it located?

1. In what way does the cat proceed? What does nature teach her? How does the cat look? What should we be able to find in her head? 2. What is said of the spider and the opossum? 3. What are some children always doing? In what way does Harriet show her Secretiveness? 4. Relate the case of Mary and her mother. 5. What are many of the things said and done by different persons? In what way do they err? 6. For what purpose do some conceal? Give an example. 7. What should we all endeavour to be? What can we all do? 8. Where is Secretiveness an active principle? Relate the case of James. 9. What is Samuel doing in school? 10. Relate the case of the little girl who said she was sick. What caused her to get well so soon? 11. What is each of these cases? Why? What will these children be induced to do when they become old? When is it necessary to restrain this organ? Is this a very useful organ? How can truthful dispositions be cultivated? 12. What has been explained in this last chapter? Why are they called Selfish Propensities? What will they be if used rightly? For what do we need Combativeness? Of what use are Acquisitiveness and Alimentiveness? Of what use is Secretiveness? For what should we not use these different organs? 13. How do the Selfish Sentiments Compare with the Selfish Propensities? Why are they so called?

## CHAPTER IV.

## SELFISH SENTIMENTS.

**11. Cautiousness.** DEFINITION.—Carefulness, anxiety, fear, regard for the future. LOCATION.—Cautiousness is located on each side of the head just above Secretiveness.

1. Dr. Gall noticed that all persons who were very cautious, or timid, or easily frightened, or always looking ahead and borrowing trouble, had a large prominence on the sides of their heads, just above and a little behind Secretiveness. So he gave the name Cautiousness to that portion of the head. Children, most generally, have this organ large, and it is of much service to them; for if they had nothing to cause them to look ahead and beware of danger, they would continually meet with accidents; for they have not much experience to guide them.

2. There is this difference between caution and experience—a child with large Caution would run out of the road to avoid being kicked, or run over by the horses; while, if he had it small, he would not run, and would therefore be kicked, and thus learn by this, or from experience, that he must always run when the horse was coming. A child with small Cautiousness—or if it be large and have not been exercised—will be pleased with the bright light, and will desire to put his finger in the flame. After it has been burnt once, it learns from experience that it must not always play with everything that is bright and handsome.

3. A little fly, with small Cautiousness, saw the warm steam arising beautifully from a dish of water, and flew nearer and nearer, till she came so near that she was drawn in by the warm steam, and was drowned. Her experience in this case did her no good. It would have been better if she had possessed more Cautiousness.

4. You have probably noticed the difference between large and small Cautiousness among your playmates. Some boys will climb to the top of a very high and slender pole, while others will scarcely venture to climb over a fence or wall. I once heard of a boy who was so daring, that he would do almost anything you could imagine. He took a chair one day, and crawled down the steep roof of a church to the very edge, and then sat down in the chair, and folded his arms, to the great fear of the people who saw him.

5. In one of the villages of New York, there is a lad who has but a very small piece of brain where Cautiousness is situated, and he is perfectly fearless in his disposition. One day he climbed the lightning-rod on the church, and when he reached the top, he swung his foot over the forks of the rod.

6. There are some who will climb to the summit of precipices. They know that the sharp rocks and streams of water are below them, and that if they took one wrong step, they would be precipitated to the bottom and be torn to pieces. There are some who will swim in very deep water, while others will hardly wade in it when shallow.

7. A boy who saw another walking towards a pond of ice, with his skates in one hand, and staff in the other, warned him that it was dangerous, as it had already broken in one place, and might in others. "Oh," said the lad with small Cautiousness, "I do not care, I can find thick ice somewhere in the pond, and I intend to avoid all the holes and thin places." "But," said he with large Cautiousness, "do take care, for you will certainly fall into a hole before you are aware of it. I shall not skate again till the weather is much colder, and the water freezes harder."

8. How many scholars there are who are actually afraid to tell their teachers all they know about their lessons. They have Cautiousness so large, that as soon as the question is asked, they either forget the answer, or are so confused, that they cannot speak what they know perfectly. If they say anything, they speak so low that they can scarcely be heard.

9. I know a little girl who has large Cautiousness, who always asked to have a light in her room when she went to bed, and wished her mother to stay with her and sing her to sleep. If she woke and found her mother had left the room, she would scream as if she was very much terrified. This caused her mother much trouble and should have been corrected.

10. Mothers show large Cautiousness and Philoprogenitiveness when they are extremely anxious about their children. If they take a slight cold, they think all the time that they will be sick, and perhaps die. If they go to school, they are fearful that some accident will happen to them. They show this organ when they will not permit their little children to climb the backs of the chairs, or stairs, and forget that they must learn to do things before they can do them well. They show it by covering their children with clothing so that not a breath of air can reach them, and forget that it is pure air which vitalises their blood.

11. They show it when they do not bathe their children in cold water, and are fearful that they may take cold if they do so. This will be the case, if they do it only occasionally, on some important occasion, when they are to be dressed.

12. A good old grandmother manifested it, when she charged her grandchildren "not to go near the water till they had learned to swim," for fear they would be drowned.

13. Those persons who have small Cautiousness, together with small Secretiveness, are very blunt in their remarks, and frequently injure the feelings of others by them, so that either extreme is unfortunate. You must exercise this enough to know what you intend to do before you commence, and to take proper care and anxiety for the future. If the little girl had too much, she would not begin to cut out her doll-baby's dresses; and if she had too little, she would waste her muslin; so she must have just enough to accomplish what she desires.

14. The old hen sees the hawk flying over her head, and her instinct tells her that it wants her dear little chicks; so she screams, flaps her wings, and calls all her little ones together, that she may protect them under the shadow of her wings. She has, like the mother, Cautiousness and Philoprogenitiveness combined.

QUESTIONS.—Name the subject of chapter fourth. State the definition of Cautiousness. Give its location. 1. State why Dr. Gall named that portion of the head Cautiousness. State who generally have this organ large. State why it is of much service to them. And what guide do children lack. 2. State what the difference between caution and experience is. Tell me what other illustration is given. 3. State what was the case with the little fly. Name which would have been preferable. 4. State what difference there is in boys. Relate the case of the daring and courageous boy. 5. Relate the case of the boy who had very small Cautiousness. 6. Say what some will do who have small Cautiousness. Of what danger are they regardless? How is this organ shown in reference to water? 7. Relate the story. 8. In what way does Cautiousness affect scholars? 9. In what way did the little girl show her Cautiousness? 10. In what way do mothers show Cautiousness and Philoprogenitiveness? State what fears they have for their children. Tell me why they do not permit them to climb the backs of chairs. Name what parents forget. 11. How do some mothers regard cold water? 12. In what way did an old grandmother show this organ? 13. State what the effects are of small Cautiousness and small Secretiveness. How must this organ be exercised? Give an example. 14. Explain what the old hen does.

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**12. Approbativeness.** DEFINITION.—Love of praise, ambition, desire for fame, sensitiveness. LOCATION.—Approbativeness is situated between Cautiousness and Self-Esteem—an organ next to be described—on each side of the head.

1. We were not created to serve and please ourselves alone, while we are surrounded by friends and acquaintances; and we therefore find that there is a distinct portion on each side of the head, which was given to us for that purpose—to dispose us to please our friends, to be polite, affable, and courteous. When this organ of Approbativeness is large and active, it causes the person to be very sensitive to praise or censure.

2. He will feel it very keenly if he be reproved for doing anything wrong, and feel much hurt if addressed in harsh and unkind language; and will also be much encouraged if he receives a word of praise or commendation from his parents or teachers.

3. All nations and all classes of people manifest a love for approbation, but in different ways, which depends greatly on circumstances and education.

4. The people who live in China press the feet of their children, and bandage them as soon as they are born, to prevent their growth. They admire small feet.

and are willing to torture themselves and their children in order to gratify this feeling of Approbativeness.

5. The Flat-headed Indians, on the other hand, think that a flat forehead is a mark of beauty; so all their little infants have their foreheads pressed backward, and have a handage put around the head, in order that the brain need not grow and expand in the forehead. Others press different parts of their heads for the same purpose.

6. There are many Indian tribes who paint their bodies with various colours, wear beads in their noses, and earrings in their ears, and cut and disfigure their bodies, solely for the sake of pleasing others.

7. The same feeling is shown in more civilised nations by extravagant and showy dress, or by pressing in the ribs, instead of the head or feet, to make small waists. Although it is silly and ridiculous to do either of the former, yet the effects are not so injurious as the latter; for when the ribs are compressed, all the vital organs suffer, and life is shortened.

8. Some wear a quantity of jewels, and buy a great deal of fine furniture, to gratify the faculty.

9. Love of approbation is one of the strongest motives and incentives to all our actions. We speak, look, and act, not so much to gratify our own feelings, or to secure our own happiness, as to gratify others, and make them happy.

10. This same principle induces many people to dress themselves in their finest clothes when they walk out, and to open their parlours, and sit in them, when they have company.

11. Little girls exhibit a fondness for dress and show very early. Why? Because they desire to be praised; they are fond of approbation.

12. There is another way in which Approbativeness is developed, viz., in ambition. Said a little boy, "Mother told me, when I become a man, I may go on a voyage round Cape Horn." The little boy never thought of the hardships which he would be obliged to encounter, the heat and the cold he must endure, but looked forward to this event with bright anticipations; ambition would be gratified; he could do as his father was doing, and he would then be satisfied.

13. Napoleon Bonaparte had unbounded ambition; he desired to conquer the whole world, and bring all nations into subjection to his power.

14. When King Alexander had conquered almost all the eastern world, and was pushing his armies onward to new conquests, he wept because there were no more worlds to conquer.

15. Approbativeness is exhibited by the desire to excel others. There are many students who will sit up all the night to study, in order that they may excel all others in their class. They thus weaken their bodies, and impair their minds, so that they can do very little good with their knowledge when gained.

16. Boys show this organ in their sports; they will try to leap a little farther than the one who performed last, and by over-exertions will often injure themselves.

17. You have all probably heard of the illustrious Sam Patch, who leaped over the Falls of Niagara. He was very desirous to have the praise and approbation of others, and could not think of anything else by which to gain it; so he jumped twenty, thirty, forty, and one hundred and sixty feet; and, in the presence of ten thousand persons, leaped at Niagara Falls—from a scaffold raised for that purpose—into the water, and being excited by the applause of the people he proposed to jump at the Genesee Falls, which are ninety-six feet high, from a scaffold twenty-five feet high, which made one hundred and twenty-one feet in height; but this last leap proved that "he took one leap too much;" for he was drowned in the waters, never to rise again. He was another instance of the folly of too great ambition.

18. When this feeling is excessive, it frequently leads to selfishness, as I will show by the following story. It makes some people irritable and uneasy, when they cannot succeed in doing what they attempt to do.

19. Let us look at those two boys in the next field, who are flying their kites. John and William played very pleasantly together, till John's kite began to ascend higher than William's. He said this was not fair play, and told John he thought it was time to go home; but John, who enjoyed the sport very much, replied, that he was not quite ready, and, moreover, their parents had given them the whole afternoon for play. William had large Approbativeness, and could not endure the idea of being excelled by another in anything.

20. He began, therefore to feel quite uneasy; still John's kite continued to ascend in the air, with the rapid speed of a bird, till it really appeared very beautiful

as it was wafted along by the light breeze. As John turned his head, William cut the string, and then the kite came tumbling, tumbling, down through the air, as a man totters along when he has drunk so much rum that his muscles cannot support him.

21. Here was trouble. John, although a very good and kind-hearted boy, could not help crying, and told William he would never play with him again. What shall we call William? Every one would say, "A very selfish boy."

22. The kite happened to fall where John could easily find it, and being pacified they went out again the next day to play. William had fixed his kite, and put on some new string, to see if his could not equal John's. They tried again. They unrolled their cord; away went the string, and away went their kites; they mounted together, but very soon John's again rose higher and higher, till it appeared like a little speck in the air.

23. William was much displeased, and was strongly inclined to use his Combativeness; but as they had not much time that day for play, they soon returned home. John ran off to school light-hearted, but William thought during the whole day of the speed of John's kite. On his way home from school, he recollected that John had told him he intended to go on an errand for his mother. In passing by his father's yard, he saw the kite lying in one corner, as John had left it in the morning. A wicked thought came into his mind—to exchange one for the other. As they lived very near each other, this was done without attracting the notice of any one.

24. The next play-day William proposed to John to go out again and have a fine time. In the meantime William had painted John's kite, and marked it all over, so that he would not recognise it. They let out their kites in the air, when lo! William's soared up to the clouds, while John's—who did not notice that he had not his own—could not succeed at all.

25. William's Approbativeness was gratified. Do you think, children, that William was happy? No! there was something within that troubled him, and told him that he had acted wrongly. He not only had too much Approbativeness, but exercised his Acquisitiveness by taking what did not belong to him. When you have a very great desire to excel others, recollect the case of William, and how unhappy he must have been in the course he pursued.

26. We should keep this organ under proper restraint; but should be anxious to have a good name, and clear reputation, and should strive to do all we can to make others happy.

QUESTIONS.—What is the definition of Approbativeness? What is its location? 1. What was not the design of our Creator? With what are we provided, and for what purpose? What is one effect of this organ? 2. How will the person receive reproof and unkindness? How can he be encouraged? 3. How extensive is the influence of this organ? Is there any difference? 4. What is a custom among the Chinese? What do they admire? 5. What do the flat-headed Indians consider a mark of beauty? What is their peculiar custom? 6. What are the customs of other Indian tribes? 7. How is this feeling exhibited in civilised nations? Why are the effects of this latter custom more injurious than the former? 8. In what way do others show this faculty? 9. What is a powerful motive to action? How do we show it? 10. Name some of the other ways in which this faculty is exhibited. 11. What do little girls easily exhibit? What is the cause of this? 12. What is the next way in which Approbativeness is developed? Give an example of the little hoy. Of what did he never think? Why would he be satisfied? 13. In what is Bonaparte an example of ambition? 14. How did Alexander show ambition? 15. What is another way in which this organ is exhibited? What do students often do? What are the effects of this course? 16. In what way do boys show this organ? 17. Who was Sam Patch? Of what was he desirous? What did he do to obtain this? What was his last proposition, and how did it end? 18. What are the effects of the excessive exercise of this organ? 19. Relate the story of John and William. Why did William begin to feel uneasy? 20. What is said of John's kite? What did William do, and what was the effect of it? 21. How did John feel? What was William? 22. Why did John become reconciled to William? What is said of their next attempts? 23. What were the feelings of William? What did William recollect? What resulted from this remembrance? Did he succeed? 24. Did they play again together? Why did not John recognise his kite? How did they succeed this afternoon? 25. What was William's motive? Was he happy? Why not? Why should children remember this story? 26. How much should we exercise this organ?

**13. Self-Esteem.** DEFINITION.—Self-respect, dignity, independence, love of liberty, desire to rule and command. LOCATION.—Self-esteem is situated between the two organs of Approbativeness, just where the back of the head begins to rise.

1. Some people are vain, others are proud. The difference between vanity and pride is simply this—vanity disposes us to show off our attractions to others, to secure their attention, to please them, and to obtain their praise and good-will; this arises from Approbativeness; while pride cares not so much for the respect and good-will of others, as for our own feelings of respect, our own good-will; this arises from Self-Esteem.

2. A person who has large Self-Esteem, desires to pursue his own course in life, to think and act for himself. He does not ask another what he shall do, but decides for himself.

3. Children with this organ large, think they can do as much as their parents and often feel as though they were too old to render obedience to their requests. They also show it in their plays. Some one is always the head, the captain, or the ruling spirit, and all the others do as he indicates.

4. Young men who have large Self-Esteem, are anxious to get away from the restraints of home, to be their own masters, to take their own cares and responsibilities, and to act as they please. Some show the influence of this organ by the exercise of a commanding spirit; they love to rule and govern their fellow beings; one man always rules, and another serves; one man makes the laws of the nation, and another obeys them; one man is teacher, another is scholar.

5. This organ is sometimes developed by dignity. There are some who do right, because they have too much honour to do otherwise; for if they took a wrong course, they would not feel the self-respect which they call honour. Some have false ideas about honour. At the South, if a person speaks to another at all disrespectfully, the latter feels that he must challenge him to fight a duel, and endeavour to take his life; but it would be much more honourable for him to forgive or pass it by in silence.

6. With very small Self-Esteem, one places but little value on what he does; and if Approbativeness be large, he is so anxious to please, that he fears all the time that he shall fail, and therefore does worse than he might if the organ were large. Sometimes the organ is too large, and gives a haughty, domineering spirit.

7. The peacock has both Self-Esteem and Approbativeness. She spreads out her beautiful feathers, as if conscious of her charms, and as if she desired to attract the attention of others.

8. We need just enough Self-Esteem to cause us to place a fair value on ourselves, that we may bring out all our powers to their full extent; and not so much as to make us proud and haughty.

QUESTIONS.—What is the definition of Self-Esteem? What is its location? 1. What is the difference between pride and vanity? From what do they each arise? 2. What does Self-Esteem dispose a person to do? 3. In what way do children show this organ? 4. In what way do young men show it? In what other ways is it frequently exhibited? 5. What is the next way in which it is shown? What induces some persons to do right? What is meant by honour at the South? What would be a preferable course? 6. What is the influence of very small Self-Esteem joined with large Approbativeness? 7. In what way does the peacock represent Self-Esteem? How much of this organ is necessary?

**14. Firmness.** DEFINITION.—Will, decision, perseverance, determination, obstinacy. LOCATION.—Firmness is situated on the back part of the top of the head, immediately in front of Self-Esteem.

1. Firmness is a very important organ; but, like all the others, is liable to perversion, as I will show you. If a person has large Firmness, and, especially, Self-Esteem, he is very firm, decided, unyielding, and frequently stubborn. If he intends to pursue any course, he is decided to do it, whether it be for the best or not.

2. If a person has but little Firmness, he has not much character; he will say, "I will if I can," "Perhaps I will," "I will try," &c.; but when it is large, he says, "Rain or shine, I will go, and nothing shall prevent me."

3. Children, generally, have this organ very largely developed, and it is a source of much trouble to those who have the care of them; for it is not guided by reason.

4. How often do children refuse to yield obedience to their parents. Richard has resolved to do a certain thing; his mother says that he must not do it. If Richard does not say "I will," it is not because he does not feel so; for he still persists, and does not yield till he has accomplished what he desires.

5. "Charles, dear, do not shut the door," said his mother. "No, mother," replied the little boy, but all the time he shut it more, and would have finally closed it, if his mother had not taken him away.

6. Robert told his father a falsehood. He asked his son again and again if his statement of the thing were correct; but Robert has told his story, and, although his conscience whispered to him that he had done wrong, yet he is unwilling to retract what he has once said; he foolishly thought he must adhere to his word.

7. Once there was a little boy named Edward. His mother put him to bed one night, and asked him to kiss her, as he usually did, but for some cause, he thought that he would not. "Why, Edward," said his mother, "I wish you to kiss me." He refused to do so. "Why, Edward, do you not intend to do as I wish you?" Still Edward would not yield.

8. "Then," said his mother, "I must punish you, for you must obey your mother." So she punished him, but still he was determined not to obey her, and he did not. He had large Firmness thus to refuse to do what was usually a great pleasure both to him and to his mother; he would yield neither to her entreaties nor commands.

9. He was not only firm but obstinate. In each of the above cases the children did not wilfully mean to do wrong; but they did not wish to yield their wills to another. They wished to have their own way, and yield only to their own desires and inclinations. They acted somewhat in the same way as a mule does. The mule is a very stubborn animal; the more a man endeavours to make him follow, the less inclined he is to move. Even blows produce no effect on him.

10. It is well to have some firmness and decision of character; for without them, we could be influenced by everybody, and made to do just as they desired. We could commence a great many pieces of work at the same time, and never finish any of them. We should have no resolution, but should continually change our plans. We should do one thing one day, and attempt another the next.

11. Mungo Park, an excellent man, who lived many years ago, had a great fondness for making discoveries. Africa, you know, is in the Eastern Hemisphere, many thousand miles from New York. A great portion of that large country is a sandy desert, and is uninhabited. No people, or very few, live in the interior countries; and it is almost impossible for any one to travel through them on account of the savage character of the people, and the unhealthiness of the climate. The river Niger runs through Africa. Many years since no one knew its source; where it terminated, or emptied its waters.

12. The European people were very anxious to ascertain this, in order to send their ships down the river if it were possible; but no one was willing to undertake so dangerous an enterprise, till Mungo Park said he would go, and brave all the dangers and endure all the hardships, if they would provide him with a fleet of ships and a sufficient number of men.

13. They set out, and, as was expected, they met with numerous difficulties; for all the men who went with him died, and he was almost starved for want of food. Every thing he had was stolen from him by the natives. He returned to Europe, and being not at all daunted by his first failure, determined to embark again. So another fleet was provided, as well as provisions for the journey. He lived to see all his men but two or three killed or taken away by disease. He was then taken captive, or taken by a tribe of savages, while sailing on the river Niger.

14. Some may say that he was guided by Approbativeness—that he was desirous of fame and glory; be that as it may, if he had not possessed large Firmness which gave him energy, resolution, and decision of character, he could never have endured what he did. But his Firmness caused him to say, "I will go; yea, if I die, I will go;" and go he did, and died on his favourite stream, but not till he had gained considerable information on the subject which he had so much at heart.

15. Napoleon Bonaparte is another instance of large Firmness. He was an obscure boy when young, but had an uncommon amount of perseverance, by which he rose from one station to another, till finally his name was borne on the breezes of the nation as Emperor of France; and at one time nearly the whole of Europe was shaken by his name. If his ambition had not been too excessive, he would have been contented with a measure of fame, and never have lost his crown and been banished to the lonely isle of St. Helena, to waste away his days.

16. Robert Bruce had large Firmness, and much perseverance. He had been defeated again and again, and was almost discouraged, and was about to surrender himself to the enemy. One day he laid himself down on his bed, and was meditating on the sad state of affairs, and thinking of the prospects of the future, when he observed a spider weaving her web on the ceiling.

17. He noticed that as often as the spider attached the thread to the farther end, the thread broke, but still the spider tried again. Robert was so pleased with the spider's efforts, that he forgot his own misfortunes. He counted the times that the spider tried to fasten her web. When she had failed the sixth time, he recollected that he had been defeated just six times. Said he, "If she tries again and succeeds, I will try again to regain my lost fortunes."

18. The spider tried again, succeeded, and Robert Bruce left his couch with new resolutions. He rallied around him a few chosen spirits who were his warm and devoted friends, and went into the field of battle. The tide of success turned in his favour, and he was ever afterwards fortunate. He possessed perseverance, and although he had often been defeated, yet he persevered till he finally succeeded in his efforts.

19. There are many rich and intelligent men who were poor and ragged when children, but who, by perseverance, have become distinguished men in society, highly respected and esteemed.

20. Inebriates, who break off from their cups, require much Firmness to sustain them in their good resolutions; and the reason that so many become intemperate after they have signed the pledge, is, because they have not decision enough to refuse to drink with their friends, or because their Adhesiveness or Approbativeness is larger than their Firmness; yet this is no excuse for them, for if they are conscious that they are easily influenced by their friends, they should try to cultivate this organ of Firmness, and guard against temptation.

21. Some of our most noble buildings, the works of art, the great pyramids of the ancient world, the temples, castles, and churches have resulted from the development of this organ in those who built them.

22. With Firmness, I finish the description of the Selfish Sentiments, and you can see that, although the exercise of them can produce selfishness, yet they are capable of a higher office than the Selfish Propensities. We were created social beings, and it is both our privilege and duty to exercise these social organs in a proper manner.

23. We were also created selfish beings; for we have an animal nature, and its corresponding wants, which must be gratified. We must eat, and exercise our Alimentiveness; we must find something to eat by calling to our aid Acquisitiveness; we must also use our Cautiousness, to warn us of the approach of danger, and to bid us take thought for our future wants; we use our Approbativeness to make us polite, affable, and careful of injuring the feelings of others; we use our Self-Esteem to make us independent, manly, and dignified; and, finally, we use our Firmness to give us decision of character, perseverance, and stability. These organs are all given us for a good purpose; and if we do not abuse these faculties, we shall be doing only what our Creator intended us to do, nourishing and supporting our bodies by their use.

QUESTIONS.—Give the definition of Firmness. Give its location. State what is said of Firmness. State what the influences of large Firmness and large Self-Esteem are. 2. State what a person says with small Firmness, and what if Firmness be large. 3. State what is said of this organ in children. 4. Say what children often refuse to do. Relate the case of William. 5. Relate the case of Charles. 6. Relate the case of Robert. 7, 8. Relate the story of little Edward. 9. State what Edward's disposition was. State what probably the motive of each of the children was in the above stories. State what is said of the mule. 10. Say why some Firmness is desirable. 11. Say who Mungo Park was. Say where Africa is. State what is said of most of that country. State what was not known concerning the river Niger. 12. Say why the European people were interested in this river. Say what the offer of Mungo Park was. 13. State what their success was. Say what he then did. Say what became of the second fleet. Say what his own fate was. 14. State what enabled this noble man to endure so many hardships. Say what language his Firmness dictated. Say what he gained. 15. Say who is another instance of large Firmness. State what is said of him. State what the result would have been if his ambition had been less. 16. State who is another instance of this organ. State what is said of his success, and what he did. 17. State what observation he



made on the spider. How did this affect him? 18. State what determination he made. State what his peculiar trait of character was. 19. State what is true respecting many of our distinguished members of society. 20. State who especially require Firmness. State why many break the pledge. State why these reasons are no excuse for them. 21. State what some of the works of art are which have resulted from Firmness. 22. State what general remarks are made of these Selfish Sentiments. State what is said of our social nature. 23. State what is said of our selfish nature. For what do we need these different selfish organs? In what way can we do what our Creator intended we should do?

## CHAPTER V.

### M O R A L   S E N T I M E N T S .

**15. Conscientiousness.** DEFINITION.—Regard for duty, justice, sense of moral obligation, and the right and wrong of actions. LOCATION.—Conscientiousness is situated on each side of Firmness.

1. There is an element of mind within us that is called conscience. There is also a portion of brain which corresponds to this element. Every one has this monitor, which watches over all his actions, and speaks in tones almost audible, to inform him when he has done right or wrong.

2. The reason why it is called a guide, or monitor, is, because the word monitor means some one to watch over us, to take care of us, or to warn us of our faults.

3. In some schools, one of the older scholars is selected by the teacher to take care of the smaller children, to hear their lessons, &c., and is called a monitor. Let us examine and see if all of us have a conscience to serve us as a monitor.

4. We will take the little child: its mother says, "No, my dear, do not touch it." The little thing puts out its hand, and wishes to touch it very much, yet draws it back again.

5. The child goes to school, sees a piece of money on the floor, reaches forth to take it; but there is something that draws him back, and whispers to him, "Do not take it," and he reflects that it does not belong to him.

6. On his way to school, he passes a stall where there are some fine oranges, and other fruit, exhibited for sale in a very tempting manner. The woman had turned her head, and the lad wishes that one of those nice oranges were in his pocket; but there is a still, small voice, that says, "It is not right; they do not belong to you." He draws back his hand, and hastens to school.

7. In school, one day, one of the boys was called out by the teacher to be punished for making a great noise, or for whispering. Why is it that his neighbour cannot study? Ah! he hears that silent monitor say, "Do not let the innocent be punished for the guilty." So he stands in his seat, and firmly says to the teacher, "I made the noise, sir."

8. Ann has done something wrong. She has told her mother a falsehood. She goes to bed at night, but her usually sweet and quiet slumbers are disturbed; and she cannot sleep till she has asked forgiveness of her mother.

9. Another example: George Washington—and I presume all children know perfectly well who he was—when a little boy, had a new hatchet presented to him, which pleased him greatly. As boys frequently do, he hacked everything which came in his way. Among other things, he cut a young cherry tree in his father's garden. His father thought much of this tree, and valued it highly.

10. When he came home, and saw what had been done, he was very much surprised that any one should have been so thoughtless as to destroy his valuable tree. Little George stood at the side of his father, and at once saw the mischief he had done, and was much afraid of his father's displeasure; but, summoning courage, he looked in his father's face and said, "It was I, father, who cut the tree with my little hatchet."

11. His father was so pleased with the candour and truthfulness of his son, that he could not punish him; but told him how much better pleased he was to see his little boy honest, than with all the trees in the nursery.

12. George Washington never told a lie. Why not? Because he, with the others of whom I have spoken previously had large Conscientiousness, or in other words, because they heeded that still, small voice, which always speaks in gentle tones, but so loud that we may always hear it if we listen attentively.

13. When we do right, there is something which almost always tells us of it, and makes us very happy. It is even exhibited in the countenance. You often hear your teacher, or some older person say, "That boy has done wrong, for he appears guilty," or, "That boy has done as he ought; he appears innocent."

14. Sometimes persons who commit crimes secretly, which are not discovered, confess their guilt, and deliver themselves up to justice, even many years after the deed has been done.

15. I once read of a Jew, who travelled with his master, who was rich, and carried a large quantity of jewellery with him. The servant, instigated by a love of money, killed his master, lowered his body into the water, seized his property, and left for another part of the country.

16. He there commenced business gradually, and became richer and more successful, owing, as the people then thought, to his industry and skill in business. He became so popular and was so much esteemed in the town where he lived, that he married a daughter of one of the most influential men. He soon rose to office, and was elected one of their judges.

17. A man was brought into court one day, charged with murdering another man; the case was the murder of the Jew's old master, whose body had been found in the river. The man pleaded innocence, but the evidence was so strong against him that his sentence was almost sure. The judge was quite uneasy in his seat, and finally rose on his feet, and addressed those present.

18. He told them, that, although the evidence appeared perfectly clear against the man, yet his own conscience would not permit him to suffer punishment; that he knew that he was innocent, for he himself was the guilty man. He then confessed the whole affair from beginning to end, told how he had deceived the people by feigning to be poor when he was rich, and concluded by saying that he wished justice done to himself for he had led a very unhappy life since he committed the deed, being wounded continually by the stings of conscience. This man had large Conscientiousness, but was influenced more by his large Acquisitiveness.

19. The conscience can, and does, become seared or hardened, if we neglect to heed its voice; yet even then, it will occasionally speak to disturb our peace and happiness.

20. Children generally have large conscience when they are young, but too many neglect to take care of it. Suppose you should plant seeds in a garden, and when the leaflets raised their tiny heads above the ground, you should let the weeds grow all around the tender plant, do you not think it would be choked or killed by them? Precisely the same is true in reference to children.

21. Their conscience is like a sheet of white paper; every time the child disregards its voice, it is like a spot of ink dropped on the paper. This spot can never be entirely removed; the paper will never be as clear and white again as it was at first. So, if we do wrong once, we may feel very badly; the second time it is easier for us to refuse to listen to the monitions of conscience; till, finally, a person can take the life of another, and scarcely feel any sorrow or guilt at the time, though most of all our abandoned criminals have moments when they think of the days of their innocence and purity, and would be willing to give worlds, if they had them, if it were possible that the remembrance of their guilt could be blotted out from their memories. They feel the keen pangs of remorse, and weep in bitterness of spirit.

22. Those who commit murders, and do other wicked deeds, were once pure, playful, and happy children. They were fondled and caressed as much by a fond mother, and were nestled as closely to her bosom of love, and felt as badly as any of you at the first sin they committed.

23. Indians are frequently very conscientious. The following fact shows that they recognise this element of mind.

24. An Indian, being among his white neighbours, asked for a little tobacco to smoke, and one of them, having some loose in his pocket, gave him a handful. The day following, the Indian came back inquiring for the donor, saying, "That he had found quarter of a dollar among the tobacco."

25. Being told, "That as it had been given him, he might as well keep it," he

answered, pointing to his breast, "Got a good man and a bad man here; the good man say, 'It is not mine, I must return it to the owner;' the bad man say, 'Why, he gave it to you, and it is your own now;' the good man say, 'That's uot right; the tobacco is yours, not the money;' the bad man say, 'Never mind, you got it, go buy some dram;' the good man say, 'No, no, you must not do so;' so I don't know what to do. I think to go to sleep, but the good man and the bad man keep talking all night, and trouble me; and now I bring the money back, I feel good." In this case the Indian called the suggestions of his Acquisitiveness and conscience the good and bad man, and could not be easy or quiet under the reproaches of conscience.

26. Remember, children, to take care of that conscience of yours while you are young. When you have done wrong, be willing to confess it, and endeavour to do wrong no more. I know that there are some who have large conscience, but whose Firmness is weak, who are easily influenced by bad and wicked companions, and are led astray by them; to such I would say, if you cannot say, "No," when a friend asks you to do something which your conscience tells you is wrong, then avoid the company of that friend. This is the only way to become virtuous, truthful and conscientious. And I hope you all have the desire to improve your minds, and dispositions. Remember, children, you are now laying the foundation for your future characters. What you wish to be when men and women, endeavour to be while children.

QUESTIONS.—Name the subject of chapter fifth. Give the definition of Conscientiousness. State its location. 1. What element do we possess? What corresponds to this? Is this monitor confined to a few? 2. State why the conscience is called a monitor. 3. State what is meant by a monitor in school. 4. State what is said of the mother and the child. 5. State what is related of the child when in school. 6. In what form does temptation come to him again? Does he resist, and why? 7. State what is said of the two boys in school. State why the noble boy confessed that he had done the mischief. 8. Relate the case of Ann. 9, 10. Relate the story of George Washington. 11. State what the feelings of the father were. 12. State what was true of this boy. State why he was always truthful. In what way does our conscience speak? 13. State what is always the case when we do right. State where this is exhibited. State what is a very common remark. 14. State what is true of many persons who commit crimes secretly. 15, 16. Relate the anecdote of the Jew. 17. State what suit was brought into court one day. 18. State what course the judge pursued. State why he had been unhappy. State what motives influenced this Jew. 19. How can the conscience become hardened? 20. State who generally have large conscience. In what way is this neglect illustrated by seeds in a garden? 21. State what resemblance there is between the conscience of a child and a sheet of white paper. State what is said of the first and second sin. Do abandoned criminals ever feel the stings of conscience? State what it leads them to think. 22. State what hardened sinners were when children. 23. Have Indians a conscience? 24. Relate the anecdote of the Indian. 25. State what the Indian called his conscience and Acquisitiveness. 26. State what children should endeavour to do. State what is said of those who have large conscience, but small Firmness. State what direction is given to such persons. State what children should remember.

**16. Hope.** DEFINITION.—Anticipations of success, sense of the future, LOCATION.—The organ of Hope is located in front of Conscientiousness, each side of the back part of the head.

1. We have learned that we have an element of mind to lead us to reflect on our actions, and to cause us uneasiness and unhappiness when we have done wrong, as well as joy and peace when we have done right.

2. We might, if this organ were too excessive, be discouraged at times, and feel that all our efforts were useless, and that we could never do as we ought; but, close by its side, lies another part of the brain, which disposes us to be cheerful, to look ahead, to forget the present, and to anticipate the future.

3. Children are generally very happy, light, and merry-hearted. One reason is, that they have no cares to trouble them, and very few sorrows to throw a gloom over their little spirits; another is, that their thoughts are always, as it were, on the tiptoe; they are thinking about a time to come, when the years will roll by, and manhood and womanhood shall be theirs. Then they will have, as they imagine, perfect enjoyment.

4. There is scarcely any one who does not anticipate, think, and say what he will do in after years.

Said a little boy, "When I am a man, I intend to be a doctor, and I will have on my sign-board such and such letters," mentioning the initials of his own name; and thus his imagination was filled with drugs and medicines, and his hope was fed by the anticipation.

5. "To-morrow I will do so and so," said the little girl. "To-morrow I will see my dear parents." "To-morrow I will go to school." "To-morrow I will finish my work." "To-morrow I will learn my lesson, &c."

6. Time flies, and to-morrow comes, and then another to-morrow is anticipated. Years pass, and the little boy is a man; he now lays deeper plans and schemes, and says, "In a few years I shall be wealthy, or intellectual, and shall be able to rest from my labours." Disappointment comes, but he still thinks there is "a good time coming," a bright day ahead, and he tries again.

7. Some men have this organ so large, that they speculate, or lay out a great deal of money in purchasing lands, thinking that their value will increase; but they frequently lose, because they cannot sell the land for as much money as they have paid for it.

8. Some buy large quantities of flour, wheat, and other articles of commerce, when there is but little in the market, thinking that if it is scarce, the value will increase, but they are very often obliged to sell it for less than they paid for it.

9. Very large Hope leads a person to make large promises. The future appears to him a dream of bliss; he thinks that success will certainly attend him, so he frequently meets with disappointments.

10. It is Hope that sustains and inspires the mariner, when he ventures on the stormy ocean. He leaves the endearments of home, and embarks for a long journey, and knows that he will be in the midst of dangers and perils; yet he hopes and anticipates that fortune will crown his efforts, and that he shall accumulate property.

11. When the winds blow around his ship, and the angry waves dash against it with fury, and drive it on the rocks, why is he not filled with despair, when seated on his frail bark? There is a gleam of Hope in his soul. He sees a distant sail, although so distant that it appears like a speck on the waste of waters, yet Hope whispers that the mariners will desery his situation, and come to his aid in season to snatch him from a watery grave.

12. The mother, as she holds the infant on her knee, thinks how soon her little one will walk, and talk, and become a member of society. Ah! how many hearts have been filled with sorrow, because their anticipations have not been realised. Children, your parents cherish bright anticipations for your welfare: do not disappoint their hopes, but strive, as far as you can, to meet their highest anticipations. Gladden their hearts by your exertions to please them, and your own consciences will reward you, whether you meet with success or not.

13. Hope also induces us to look forward to a future life. We feel that when our bodies are laid in the ground to moulder and turn to dust, that our souls are destined to live for ever.

14. When the Christian exercises this organ as he should, he lays up a treasure in heaven, and looks forward to enjoyment there, as well as in this life.

15. He has an anchor to the soul; and if he is disappointed in this life, he can look forward to future joys, when he shall be freed from the toils and temptations of this world.

QUESTIONS.—Give the definition of Hope. State its location. 1. State what important thing we have just learned. 2. State what the influence of excessive Hope is. What is the function of the organ next to Hope? 3. State what a peculiarity of children is. State what the two reasons of this are. State what they imagined to be in store for them. 4. Do all have these feelings? State what anticipations the little boy cherished. 5. State what remarks are frequently made by those who have large anticipations. 6. State what follows one to-morrow. State what difference there is in the hopes of the boy and the man. How do disappointments affect him? 7. To what does this organ lead when very large? 7, 8. State what illustrations are given. 9. State what another exhibition of large hope is. 10. State what Hope enables the mariner to do. 11. State what dangers he encounters. State what supports him, and what he expects and anticipates. 12. How does the mother regard her infant? What do these anticipations cause if they are not realised? State what children should strive to do. 13. State what other function Hope has. 14. State what the Christian hope is. 15. State what the Christian can always anticipate.

**17. Marvellousness.** DEFINITION.—Faith, belief in the strange, marvellous, spiritual, &c. LOCATION.—Marvellousness is situated on both sides of the head, immediately in front of Hope.

1. It is often said that children believe all they hear. If they did not believe all that was told them they would never learn anything. As they have very little experience to guide them, they must have faith and confidence in others.

2. Sometimes this is carried too far, or older persons are not sufficiently careful to exercise it in a proper manner, for they are told about ghosts, goblins, and a great many other things which never existed.

3. It is better, children, that you thus have confidence in, and believe your parents and teachers, for they have, generally, your interests at heart, and only desire your good and improvement. If you had no Marvellousness you might not believe what I tell you about the brain and the mind.

4. There are some persons who are too wise to believe anything they cannot see and understand; but they are compelled to believe some things whether they wish or not.

5. We cannot see the circulation of the blood, yet we know that it does circulate. We cannot see the stomach, yet we know we have one. We cannot see the lungs, yet we are conscious of breathing. We cannot see the earth turn round on its axis, therefore many ignorantly and positively affirm that such is not the case. As well might we say that the stars never shone, if, on looking out of our window, on a rainy evening, we could see only dark clouds moving before us.

6. A good old farmer who was accustomed to believe very few things which he could not see, explain, or understand, said that he did not believe that the earth ever turned round. He said he was compelled to believe that if he sowed seed in the spring he should be able to reap a harvest in the fall, because he had repeatedly tried the experiment; but that he had for many nights watched the well of water that stood before the door, and in the morning the water was invariably at the bottom of the well, and never had been spilled in the night, which would certainly have been the case if the earth had turned round.

7. A certain king in Siam would not believe that water ever became hard enough to enable us to walk on it, merely because he had never seen it. Many persons have never seen Europe, or a king, yet others have, and we must believe their statement.

8. The exercise of this organ leads us to believe that God is everywhere around us, and that he, at all times, has the care of us, and watches over us for good. The Christian holds communion with God, and he believes his prayers will be answered.

When he meets with trials and disappointments in this life, when he feels that this earth is not his resting place, but that all is uncertainty here,

In his Father's house, Faith whispers there's room,  
A welcome, a blessing, for all who will come.

**QUESTIONS.**—Give the definition of Marvellousness. Name its location. 1. How much do children believe? State what advantage there is in this. Why? 2. In what way is this sometimes perverted? 3. State why children should have confidence in parents and teachers. 4. How wise are some persons? State what they are compelled to do. 5. What is true respecting the circulation of the blood? Respecting the lungs and stomach? State what many say in regard to the earth, and why? Name what might be said with equal truth. 6. Relate the story of the good old farmer? State what it was he was compelled to believe, and why? 7. Relate the case of the king of Siam. State what those persons must do who have never seen Europe, nor a king. 8. Relate what the exercise of this organ leads us to believe. State what the Christian is enabled to do. State what assurance and comfort he has when he feels that the earth is not his home.

**18. Veneration.** DEFINITION.—Worship, devotion, regard for things sacred, old, and ancient; deference, respect. LOCATION.—Veneration is situated directly in front of Firmness, on the upper part of the head.

1. You have just learned that by the exercise of Marvellousness, we believe in the existence of a God and Father in heaven. By the exercise of the organ of Veneration, we venerate, adore, and love him. We feel that he has created all things by which we are surrounded. The beautiful stars and planets that glitter in the firmament, the mountains and the valleys, the streamlets and rivers, the fields and the flowers, are all the works of his hand, and should call forth our Veneration.

2. People of almost every nation have this organ; but in some it is guided by superstition, in others by enlightened intellect and reason.

3. In Hindostan, where the people are very superstitious, they worship the monkey as a god; and at one time those ignorant people expended fifty thousand dollars, it is said, in marrying two monkeys, with a great deal of pomp and ceremony.

4. They make costly sacrifices to their gods, one of which they call Juggernaut. This is placed in a large chariot drawn by a numerous company of men. As it passes along the street; people rush out of their houses and throw costly and precious articles into the chariot; and many of the poor ignorant women throw their children in the road and suffer them to be trampled to death, believing that both they and the children will thus be blessed by their gods. Some throw their children into the rivers to be devoured by the crocodiles. Other people worship the sun, moon, and stars, and gods that they have made with their own hands.

5. The superstitious and ignorant thus obey one of the strongest elements of their nature; yet they have not sufficient intellect to choose for themselves the proper object of worship.

6. A person who has large Veneration will delight to wander among the ruins of old castles and works of art; will delight to collect specimens of antiquity; will respect talent and learning, will revere the old, and be always respectful to superiors, and the aged.

7. This organ is generally very deficient in children, especially in boys; hence we too often find them rough, rude, and boisterous. A minister once told me about a little boy, who, every one said, was sadly deficient in Veneration. This gentleman went to his father's house to visit the family. While he conversed with them he was continually interrupted by the boy, who amused himself by throwing marbles about the room, some of them even hitting him. The little boy, although checked by his mother, still continued to annoy the minister so much, that he soon left, and thought that he would not visit that family again, unless he knew that the boy was in school.

8. Children too frequently regard their parents, and persons older than themselves, with the same feelings, and place them on the same level, as they do their schoolmates. If this was not the case, we should not so often hear swearing, saucy, and unhandsome language; we should never see children pleased and amused with mocking, running after, and taunting old and crippled persons; their sneers would be turned into pity and commiseration of poor old men and women, and they would either permit them to pass in peace, or would try to relieve their distress and misery.

9. An instructor, who attempted to teach children to sing, remarked that in several places where he had assembled the children for that purpose, the boys were so rude, noisy, and troublesome, that he was compelled to dismiss the school. If these boys had exercised large Veneration, they would have respected their teacher, and would have given him their attention.

10. The lecturer frequently has to stop during his lectures, to speak to unruly boys, who go only for play. Even in church, the minister is often disturbed by the conduct of the boys.

11. If children exercised large Veneration, the rod could be laid aside in the schoolrooms; the mother would never be compelled to resort to punishment to enforce obedience; there would be no need of jails and prisons, for boys would then be good; the laws of the land would be respected and regarded, and men would live in comparative peace with each other.

12. Children, you must cultivate this organ of Veneration, which is very important. You must learn to be respectful to those older than yourself and especially to those very aged. You must lay aside all rough, vulgar habits and manners, that are so troublesome to your friends, and be refined, gentle, amiable, and polite.

13. You must also cultivate a veneration for God; you ought to study his laws, and obey them. If you did this from childhood, so far from being a trouble to you, it would become a source of both pleasure and advantage. Jesus said, "Suffer little children to come unto me, and forbid them not, for of such is the kingdom of heaven." And be assured that your heavenly Father will be pleased with your obedience.

14. Remember, then, that although Veneration, without the assistance of the intellect, leads to idolatry, yet, properly exercised, it is one of the best organs of the brain—that no character is perfect without it, that it assists in controlling and modifying all the other faculties, and in heightening all our enjoyments.

**QUESTIONS.**— Give the definition of Veneration. Name its location. 1. What have you learned that the function of Marvellousness is? State what the influence of Veneration is. Name what should call forth our Veneration. 2. How extensive is this organ? State why we see a marked difference in its development. 3. State what the character of the people of Hindostan is. State what one of their gods is. Relate what ridiculous festival these people made at one time. 4. State what they offer their gods. Describe the Juggernaut, and the customs of the people in reference to it. State what some of their sacrifices are. 5. What class of people perform these deeds. State why they do thus. 6. In what do persons with large Veneration take delight? 7. In whom is this organ too often deficient? State what the results are. Relate the anecdote of the minister and the boy. 8. State with what feelings children often regard their parents. State why we judge this to be the case. 9. In what way was an instructor annoyed, and why? State what difference large Veneration would have made. 10. In what ways are the lecturer and minister often annoyed? 11. State what good results would follow from the exercise of large Veneration in children. 12. What duties are enjoined on children? 13. State what obligations children owe to their Maker. State what virtue would become if children were always accustomed to it. State what the invitation of Jesus was. State what God will be pleased with. 14. State what the real advantage of Veneration is, and how it can be abused.

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**19. Benevolence.** **DEFINITION.**—Kindness, sympathy, generosity, desire to do good, and to make others happy. **LOCATION.**—Benevolence is situated immediately in front of Veneration.

1. What might be done, if men were wise!  
What glorious deeds, my suffering brother  
Would they unite in love and right,  
And cease their scorn for one another?
2. Oppression's heart might be imbued  
With kindling drops of loving-kindness,  
And knowledge pour, from shore to shore,  
Light on the eyes of mental blindness.
3. All slavery, warfare, lies, and wrong,—  
All vice and crime might die together,  
And wine and corn, to each man born  
Be free as warmth in summer weather.
4. The meanest wretch that ever trod,—  
The deepest sunk in guilt and sorrow,  
Might stand erect, in self-respect,  
And share the teeming world to-morrow.
5. What might be done! This might be done,—  
And more than this, my suffering brother,—  
More than the tongue e'er said or sung,  
If men were wise and loved each other.

6. Directly in front of Veneration is a piece of brain that induces us to be kind-hearted, ready to sympathise with objects of distress, to do little deeds and acts of kindness, and to share what we have with others.

7. Benevolence exhibits itself in many different ways. Sometimes it springs from true, generous hearts, and at other times it seems to be promoted by selfishness.

8. Some benevolent persons, who have no money, give their time. They visit the cottages of the sick and distressed, and do a great many soothing things for them, which often comfort them more than money would. It is these "Little words in kindness spoken," that contribute more to our happiness than we imagine.

9. Some persons give a great deal of money; but it is not always those who are the most benevolent. Many refuse to give to poor families around them even the crumbs from their well-spread table; yet, at the same time, they give large sums of money when they think the world will hear and know how much they give.

10. A lady once gave ten dollars for some charitable purpose, where all the donors' names were to be published in the paper, with the amount they gave. Her name was omitted in the list, and she sent to have it inserted, in order that the world might know what she contributed. This was not real benevolence.

11. Boys and girls who stand around the stove, on a cold winter's morning, before the commencement of the school, and make room for a poor ragged little boy to warm himself, who has holes in his shoes, and who has walked a long way in the cold snow, show true benevolence.

12. The parents of little James were poor, so that they could not provide him with nice warm clothes in the winter. They lived more than a mile from the school; but he was so anxious to improve his mind that he was always present in season; sometimes he came in rainy and snowy weather, and as he had no woollen mittens to keep his hands warm, he often cried with the cold.

13. In a large and handsome dwelling, very near the schoolhouse, lived the parents of Joseph. They were wealthy, and lived in much style, and he was their only son. He was a bright-eyed, intelligent, and good-hearted boy, and his fond parents kindly provided for all his wants. He had a warm bed on which to sleep at night, warm clothes to wear during the day, mittens for his fingers, and shoes for his feet; so that Jack Frost, although ever so maliciously disposed, could not possibly do him any injury. Joseph was about ten years old, and had a sweet sister two years older.

14. These children often conversed with each other about their comfortable home, and did not forget, as too many do who live in fine houses, to think of the poor creatures in God's creation who have no warm shelter to cover them from the storm, and not sufficient fire and clothing to keep their bodies warm. They frequently gave pennies and food to the poor and ragged boys and girls whom they saw in the street, and when they came to their door.

15. One day Joseph did not appear to be as happy as usual. His sister Amelia was his confiding spirit, and inquired what had occurred to disturb his mind. He said that he had been thinking in what way he could render assistance to one of his schoolmates, whom he loved very much, but whose parents were so poor that they could not make him comfortable.

16. He said it was poor James, who was constantly tormented by the other boys, till he had taken him under his own protection. Amelia, whose sympathy had previously been strongly excited towards the boy, said she thought of a plan, but was fearful that her mother would not approve of it.

17. "What is it?" said Joseph. Amelia answered, "You know father gives to each of us spending money, and he tells us that we might appropriate it to anything we choose. I am willing to spare the greater part of mine, and, with what you can spare, we might make James very comfortable. Let us go, and ask our mother whether she is willing that we should do it." They went to their mother's apartment and spoke to her of James, with all that eloquence which flows from generous hearts.

18. Their mother was pleased to see her children so kind-hearted and disinterested in their feelings and impulses, and told them, "That they might make any sacrifices they chose, for the happiness of others." She consented that Joseph should share his warm bed with James, during school days; and when the children said they wished to drink water instead of tea and coffee, she told them that she would add more to their weekly allowance of spending money.

19. The heart of James was very soon gladdened, but his good fortune did not cause him to neglect his books and to be indolent; he studied with increased zeal and ardour, and advanced so rapidly that he and Joseph were the best scholars in their class.

20. In the lapse of a few years, Joseph's father proposed to send his son to the University; James, for a long time, had anticipated a separation from his schoolmate, whom he loved as a brother, and, therefore, was not disappointed when he heard that his friend was preparing to leave him; but he was greatly surprised to receive a package, containing an adequate sum for one year's tuition in the same University where Joseph intended to go. The note was represented to have come from an unknown friend; and it stated that he would receive the same amount annually, as long as it was necessary, to enable him to qualify himself for a professional life.

21. Perhaps my young friends would like to know who this unknown friend was. I will whisper the secret to you, although it was several years before James discovered it. When Joseph's father spoke to him about leaving school, he asked him what business James intended to pursue. Joseph told his father that James had not decided as yet on his course of life; but added, that he had a fine intellect—one



which would well repay cultivation. "Father," said he, "I have for a long time wished to converse with you on this same subject, but have deferred it from day to day, for fear of incurring your displeasure."

22. "What do you mean, my son?" "Well, father, Amelia and myself, have, for several years, saved as much as we could from the allowance of money you have so kindly given us for spending, and we have a sufficient sum to defray the necessary expenses of James for two years in college with myself, and are willing to be even more economical than we have been, for the sake of James, if you have no objection to our plan."

23. The father had long witnessed, with pleasure, the affection which existed between this young man and his children, as he was virtuous, talented, refined, and amiable, and had not intended to separate them, but to furnish the requisite sum for prosecuting his education; but, as he wished to encourage generous feelings in his children, and to teach them the value of money, he expressed himself perfectly satisfied with his son's suggestion, and added that if they did not succeed, he would give the balance.

24. Joseph remitted the money to James, in a note, leaving him to suppose that it came from an unknown friend, for he did not wish to increase the feeling of obligation that James already felt toward him. Years passed, and they became men; James married Joseph's sweet sister Amelia; and finally was elected governor of the state in which he lived. Joseph and Amelia had true benevolence.

25. In many Sabbath schools in the city of New York, and in other cities, the children support a minister and a Sabbath school in the western country by their contributions, by saving all their pennies, instead of spending them idly for candy, &c.; they furnish clothing for many poor and ragged children, by which they are enabled to go to Sabbath school, where they may receive instruction that will be the means of restraining them from the indulgence of vicious habits. This also, is true benevolence.

26. I will add one more illustration of this organ. Once a father, in order to prove to his children that it was "more blessed to give than to receive," pursued the following course: On Monday evening, he took home a fine, large orange, and gave it to John in the presence of Charles and Mary, and then left them alone in the room. John was a selfish and acquisitive boy, and refused to give Charles and Mary any of his orange, but ate the whole of it, which caused contention and angry feelings.

27. The next evening their father brought home another orange and gave it to Charles, and left the room as before. Charles, recollecting that he and Mary wished to have some of John's orange very much, on the previous evening, concluded that he would give them some of his, but took good care to keep the largest piece himself, which, being seen by the other children, made them feel almost as unhappy as if they had not had any. John said, "I do not wish such a little tiny piece, it only gives me a taste without gratifying it." So then they quarrelled.

28. The third evening their father brought home another orange and gave it to Mary; but before he had time to leave the room, Mary asked him for his knife. On receiving it, she willingly and hastily divided the orange between her two brothers, reserving only a small portion for herself. They all sat down perfectly contented, and ate their piece of orange with cheerful and smiling faces, and expressed great thankfulness to their father because he had made them so happy. "But how is it," said their father, "that you are so happy this evening? Did I not hear last night, and the night previous, angry words, and noisy actions? And yet I brought you an orange each evening, the same as now."

29. "I must, if I can, ascertain the reason. John, what did you do with your orange on Monday evening?" John hung his head with shame, as he reluctantly owned that he ate it all himself. "Charles, what did you do with your orange last evening?" Charles, with much promptness, said boldly, although he felt the reproofs of his conscience, "I shared it with John and Mary." "Shared it equally, I suppose?" said his father. Charles did not wish to expose himself, but he again heard the gentle voice of conscience, which said "tell the whole truth," so he confessed that he reserved the largest piece for himself.

30. "Well, Mary, what did you do with yours? Oh, I know," said he, "you gave it nearly all away, and kept but a small piece for yourself. Your happiness consisted in giving, while that of John and Charles was in keeping. Children, the Bible says, 'It is more blessed to give than to receive.' You see now what it means; for Mary was much happier with her small piece of the orange, than John was with the whole of his."

31. Children, which will you do? cultivate these kind and generous feelings, this sympathy to relieve distress, and render those happy by whom you are surrounded? or will you, as you increase in years, increase in selfishness, unkindness, and rudeness?

32. God gave us social qualities of mind for a particular purpose; he also gave us selfish propensities; and we see that he has implanted in our very natures, moral qualities. We have a conscience to tell us when we do right or wrong, which will admonish us as truly and certainly, if not perverted, as the pendulum of a clock swings every second. Then comes smiling Hope to cheer us under any trials or disappointments which we may meet on our way, and says, if we cannot resist temptation the first time, try the second, till we do succeed.

33. Then Marvellousness gives us a belief in the God who made us, and who sustains us by his protecting care. Veneration says, "Reverence and worship that God;" and, lastly, Benevolence says, "Do unto others as you would have others to do unto you; heed the tale of woe, and sympathise with those in distress." It is not enough, children, to think only of the wants of our bodies, but we have higher duties to perform; and we should consider them as duties, important to be fulfilled. God gives us no faculty without enjoining on us the duty of educating that faculty. If we have an arm, we must use that arm, if we wish to keep its muscles in order; and, if we have the organ of Veneration, we must exercise that organ and so on with the others.

34. Some may say, I have very little of that organ, or of some others. There is a natural difference in the heads of children. If you look at the heads of every one of your schoolmates, you will see that some are long, others broad, some high, some low. There is a corresponding difference in the disposition of every child. Some are naturally amiable, and others the reverse; yet all can improve if they have the desire. If you are conscious of the want of Veneration, if you feel inclined to treat superiors with disrespect, try to cultivate deference and humility; restrain your feelings, and that organ will increase in size; the brain will enlarge, and will press out the skull.

35. Again, if you are inclined to selfishness, and have no sympathy with others, or prove to be deceitful, and to speak without regard for the truth, just recollect that it is no excuse for you to say, you cannot help it because you were made with either an excessive or deficient organisation; because you can restrain excesses, and cultivate deficiencies.

36. Learn then, while in the days of your youth, before your minds are bound and chained by strong habits, to cultivate your whole moral nature, if you wish to become useful and happy members of society. You may be intellectual, you may be social, but the moral nature is the "crown of glory," and nothing can atone for the absence of it, or supply its place.

QUESTIONS.—Give the definition of Benevolence. Name its location. 1. What is the influence of one element of mind? 1, 2. What might be done, if men were wise and kind? 3. What would die, and what would be secured to all? 4. What might the meanest do? 5. What more might be done if men were wise and loved each other? 6. What is the function of that part of the brain in front of Veneration? 7. In what way is Benevolence exhibited? 8. What do some give? Name what good this does. 9. Is the gift of money a test of Benevolence? Why not? 10. Relate the anecdote of the lady. Name what precepts she forgot. 11. State how this organ can be exhibited in school. State what the motive was. 12. Give the history of James. 13. Give the history of Joseph. 14. Give the character of Joseph and his sister. 15, 16. Relate what conversation took place between them. Did Amelia encourage him? 17. State what Amelia's plan was. Name where they went, and for what purpose. 18. State what pleased their mother. Did she sanction their plans? 19. State what effect it had on James. 20. State what change was finally proposed to Joseph. State what James had expected, and how he was surprised. 21. State what some would like to know. Relate what conversation took place between Joseph and his father. 22. State what proposition Joseph made. 23. State what the father had witnessed. State why it gave him pleasure. State what his intentions had been. State why he did not tell them to his son. State what he did tell him. 24. State what James then did. State why he wished to conceal his plans from James. State what they finally became. State what Joseph and Amelia had. 25. In what way is Benevolence exhibited in some of the Sabbath schools in New York? 26. State what a father wished to prove. Relate what was done the first evening by the father and the children. 27. State what was done the

second evening, and what was the result. 28. State what was done the third evening, and what the result was. State what the father asked. 29. State what he asked John. State what John's reply was. State what he asked Charles, and what Charles's reply was. State what he was obliged to confess. 30. State what he said Mary had done. How did the father explain this to the children? 31. Between what must children choose? 32. State what we have beside social qualities. Explain the uses of Conscience and Hope. 33. State what the functions of Marvellousness, Veneration, and Benevolence are. Of what should we think besides our bodies? What is said of all our faculties? Give the example of the arm. 34. State what excuse some will make. Is there any natural difference in heads? What? What corresponds to this? State what the duty of all is when they are conscious of any deficiency in Veneration. State what use it will be. 35. State what idle excuse some children make. State why it is not correct. 36. State what children should learn and remember. State what the moral nature is compared with the others.

## CHAPTER VI.

### SEMI-INTELLECTUAL SENTIMENTS.

We shall now examine a class of faculties that are called Semi-Intellectual, because they are closely allied with the intellect and dependent on it. The first in order is called Constructiveness.

**23. Constructiveness.** DEFINITION.—Ingenuity, desire to use tools, to construct, to invent machinery. LOCATION.—Constructiveness is situated on each side of the head, immediately in front of Acquisitiveness.

1. To construct is to build or make anything. Everything which we have around us has been made or constructed. We could not, therefore, possibly live without the organ of Constructiveness. Everything which we have that is useful and convenient, depends on it; our churches, our houses, our carriages, our railroads, our steamboats; without it we could scarcely sleep, eat, or do anything.

2. This organ, like all the others, exhibits itself very differently among different nations. The Indians lived in huts, called wigwams. The most important of their occupations consisted in hunting, fishing, and fighting; hence they used their Constructiveness mostly in building their boats or light canoes, making their bows and arrows, and articles for the battle-field. The Indian mother carried her infant, or papoose, on her back, and covered it with the skins of beasts.

3. The white man, with perhaps no more Constructiveness than the Indian, does not build rude huts of mud and clay, but constructs fine houses of brick and stone. He makes beautiful chairs on which to sit, soft carpets on which to walk, instead of walking on the logs or ground.

4. The Indian is perfectly contented to sit down at his rough table, with a stone for a plate, and to eat his half-cooked food of wild beasts with his fingers, while the white man brings his family around the neatly-covered board, and eats his richly-prepared food in dishes, and with utensils which his Constructiveness has invented. The white mother has a soft, comfortable bed on which her little infant reposes; she has a carriage to draw it out, and covers its body with warm clothing. Every day, man is constructing something new for the convenience of his neighbours, or to attract attention.

5. The channel into which this faculty is directed, depends greatly on the influence of other organs. The Indian has Constructiveness joined with Combative-ness and Destructiveness; hence his mind is exercised in manufacturing instruments of war. Others, who have large Veneration and Marvellousness, think that if God be worshipped, a suitable place should be erected for his people, and they, therefore, construct houses of religious worship. Some, with Constructiveness joined with Ideality, are successful portrait painters, poets, and artists.

6. Benjamin West became celebrated as an artist. He developed his extraordinary talent when only nine years of age. Those who have large Tune, with Constructiveness, invent different kinds of musical instruments. Mozart, Haydn, and others, were good musicians when mere children. There are other persons, having a scientific turn of mind, who invent railroads, steam engines, magnetic telegraphs, telescopes, magic lanterns, &c.

7. Children show this organ by making little boats, wooden houses, all kinds of little images, and in drawing and sketching on slates and paper.

8. This is a very profitable way in which you can spend your leisure moments. If you have any inclination to use tools, to paint, draw, or sketch, do not be discouraged if your first attempts be unsuccessful; but exercise your organ of Hope, and try again, and you may, by patience and perseverance, become distinguished as a master workman. The profession of the mechanic, of the inventor and constructor, is as honourable as any other; remember that

“Honour and shame from no condition rise,  
Act well your part, there all the honour lies.”

9. Little girls show this development in cutting and fitting dresses for their dolls, and in sewing together, very nicely, little bits of cloth in the forms of squares and diamonds—I mean “patch-work.”

10. All animals that build their houses, have broad heads in the region of this organ. The lion and bear wander among the deserts, and make the forests resound with their roar. They can make their lair—the place where they sleep—wherever they chance to be, on the mountain top or in the valley, but do not build a house. The heaver, on the contrary, cuts down trees with his teeth, and builds his hut in a particular place. The bird collects bits of straw and mud, and constructs her nest; and so of other animals and insects; but if you should look at the heads of these different animals, you would see that every one which has anything to do with building, has a broad head in the region of Constructiveness; and the opposite is also true, that those which have no use for this organ, have not the development.

QUESTIONS.—State what the subject of chapter sixth is. State why these are so called. Give the definition of Constructiveness. Name its location. 1. State what is meant by constructing. State why this is an important organ. 2. State what is said of the Constructiveness of the Indian. State how the Indian mother carries her infant. 3. State what the white man constructs. 4. State another difference between the Indian and white man. State what man is doing every day. 5. On what does the mode or channel of the exhibition of this organ depend? Give an example in the Indian. In what way are Constructiveness and Veneration joined? Constructiveness and Ideality? 6. State who Benjamin West was. In what way are Tune and Constructiveness joined? State what some of the other ways are in which this organ is developed. 7. How do children show Constructiveness? 8. How can children spend their time profitably? What is said of the profession of the mechanic? State what children should remember. 9. How do little girls show this organ? 10. What is true of all animals which build their houses? State what difference there is between the lion and the heaver. What is a custom of birds? State what difference there is in the heads of these different animals.

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**21. Ideality.** DEFINITION.—Refinement, love of improvement, perfection, and the beautiful in Nature and Art; love of romance, fiction and poetry. LOCATION.—Ideality is situated between Constructiveness and Marvellousness.

Ideality is that faculty of the mind that makes us pleased with everything that is lovely and beautiful. We cannot help admiring the gentle streamlets and rivulets, the little winding brooks, the trees and the flowers, the little warbling birds and the sporting lambkins, the moon and the stars, a beautiful painting or picture. Even the little child delights to ramble in the woods, and cull the beautiful flowers that appear to have grown for no other purpose than to please the eye, and delight the mind.

2. God might have created this world without trees and flowers, but he saw fit to clothe the earth with beauty; he peopled the fragrant groves with warbling birds, covered the ground with a velvet carpet, caused purling streams to flow gently through the valleys, and filled the fields and meadows with beautiful flowers, which delight us with their odour, all, all to gladden the heart of man, to subdue his passions, to make him feel His goodness, and to call forth his love and gratitude.

3. Ideality has a tendency to elevate the mind; and if it is joined with the moral organs, it makes the character more pure, gentle, and refined. This organ is more developed in civilised than in savage man, and is the cause of one of the great differences in their customs and habits of life.

4. One way by which you can cultivate this organ is—if it were possible and convenient—to have plots of ground which you could call your own, where you might sow the seeds and watch the growth of the tiny leaflets and flowers. This would be a most delightful amusement, as well as a healthy exercise.

5. Children, I hope that every one of you will study what is called botany, as soon as you are old enough. This will explain to you all about the seeds, the leaves, and flowers of plants and trees, and it will teach you to observe every little part of the smallest flower.

6. Some show this organ by their great imagination. They not only dream by night but are in reveries during the day. I have known little girls to give a name to all the chairs and furniture in the room and imagine them to be real living beings.

7. Some persons with large Ideality, write poetry. Young children sometimes write verses, which they could not do if they had no Ideality.

QUESTIONS.—Give the definition of Ideality. Name its location. 1. State what Ideality makes us pleased with. State what we admire. State what the child delights to do. 2. In what way might God have created the world? State what he did. For what purpose. 3. State what the tendency of Ideality is. Of what is this organ the cause? 4. In what way can it be cultivated? 5. Why should children be pleased with botany? 6. In what other way is this organ shown? State what little girls sometimes do. 7. State what another effect of Ideality is.

**B. Sublimity.** DEFINITION.—Sense of the vast, grand, sublime, and romantic in nature and art. LOCATION.—Sublimity is situated between Ideality and Cautiousness, just above Acquisitiveness.

1. The function of Sublimity resembles that of Ideality, yet it is somewhat different. Ideality gives a fondness for the lovely, pure, perfect, elevated, and refined in Nature; while Sublimity gives a love of the vast, grand, sublime, and majestic. One with large Sublimity would enjoy scenery similar to that of the waters rushing and tumbling over the rocks at the Falls of Niagara.

2. Some, when they witness this interesting and sublime view of Nature, are pleased for the moment; others are filled with awe and admiration, and feel that their souls are not large enough to drink in all its beauties. There are some who are happy and contented only in the country, where they are surrounded by Nature in all her vastness and beauty. They love the cragged precipice, the snow-capped mountain, the raging cataract, the burning volcano, emitting its fire, smoke and lava; they love the peals of rolling thunder, the forked lightning, and, if not conscious of danger, would like to sail on the mighty ocean when the angry waves and billows rise around their tempest-tossed ship.

3. There are others who have very little of either Ideality or Sublimity, and are not pleased with Nature's works, but care only to gratify their own selfish wants.

4. They have no time, they say, to think about such things. Children, love and observe Nature—especially you who do not live in the city. Ramble in the green fields, gather the modest violet, the sweet anemone, the fragrant rose, admire the beautiful moon and twinkling stars, wander by the winding brook, and enjoy the works of Nature in all their loveliness, grandeur, and sublimity. In loving Nature, you will be more inclined to love Nature's God.

QUESTIONS.—Give the definition of Sublimity. Name its location. 1. How do Ideality and Sublimity differ? 2. What are the different emotions of persons who see the Falls of Niagara? State what things in Nature some enjoy and admire. 3. How do other persons differ from them? 4. State what directions are given to children. State what will result from loving Nature.

**22. Imitation.** DEFINITION.—Ability to imitate, copy, and work after a pattern, mimicry. LOCATION.—Imitation is situated on each side of the head, next to Marvellousness, just below the side of Benevolence.

1. No one will deny the fact that we are all more or less creatures of imitation. Every thing which children do results from imitation. When they walk, it is because they have seen others use their feet for the same purpose. The first word they speak, is like one they have heard some other one use.

2. A child can learn to talk the French and Greek languages as readily as he can the English, provided he always hears his parent speak in those languages; for mere words convey no ideas to the mind of the child, except those taught by the parents. He could as readily understand that pere—the French word for father—means father, as that f-a-t-h-e-r was the correct word. He can learn to eat sitting at the table, with knives and forks, or he can learn to eat in a reclining posture like the Turk.

3. The reason why different children behave so differently, is because the people with whom they associate have different ways and manners, and these different ways and customs are copied or imitated. Those children who hear swearing, or scolding language at home, will be very likely to swear when they are away from home, and scold smaller children when they have an opportunity. Those who never hear coarseness or rudeness at their home, are generally refined in their manners, and are free from bad habits.

4. Children too often imitate bad, instead of good qualities. It has been remarked by teachers, that one bad, malicious boy, seems to exert more influence in school than many good ones. If the scholars see that one refuses obedience to the requests of the teacher they think that they can take the same liberty, and have equal privileges.

5. Said Andrew's mother to him one day, "I should like to have you go an errand for me." "I do not wish to go," answered Andrew; "cannot William do as well, for I wish to play, and it is nearly time for school?" "But I wish to have you go," said the mother. Andrew loved his mother, and if he had stopped one moment to think, he would have tried to please her; but he liked to gratify his selfish wants too often, and did not check his turbulent and unpleasant feelings; so he replied, very naughtily, "I won't go," and ran off to school. His mother intended to correct her son when he returned from school, and said no more to the other children, who had heard the above conversation.

6. Soon after this she called to her little boy George—who was generally very obedient—to come into the room. The little fellow, who was not angry, cried out as loudly as he could, "I won't, mother; I wish to stay here."

7. I have told you the above, in order that you might see how powerful Imitation is in a family. I hope all who have younger brothers and sisters will be careful, both with regard to what they say or do in their presence, that they may not encourage evil habits and wrong propensities, if they are actuated by no higher motive.

8. Imitation joined with Constructiveness, enables a person to do a variety of work, and if Ideality be large also, it gives a finish, neatness, and taste, to whatever is done. It enables a person to paint portraits, to draw a correct likeness or resemblance, and to copy the scenery of nature.

9. The Chinese people have this organ large, without much intellect to guide them. An individual, in this country, sent a cup and saucer to China, to have a set of crockery made there, similar to the articles sent. The crockery came home with a crack in every article; and, on inquiring the reason, it was stated that those sent had a crack in them. It had been caused on the voyage.

10. Every country has its peculiarities, its manners, customs, and dress, so that an Englishman or Frenchman appears very different from an American, and can be easily discovered. If a person has large Imitation, it is very easy for him to acquire these different peculiarities, so that if he be in a foreign country, he can act as foreigners do. "When he is at Rome, he can do as the Romans do."

11. Some show this organ of Imitation by mimicking everything they see or hear. This is harmless, unless the infirmities and weaknesses of others are ridiculed, or their feelings injured. In either case the result will be evil.

12. Parrots have a large organ of Imitation. It is this faculty that enables them to repeat "Pretty Polly," and numerous other phrases. They often attach no particular meaning to what they utter, but talk and chatter those words only that have been taught them by imitation, for they have little reason or intellect to guide them.

13. Mocking-birds chirp like a chicken, cry like a child, mew like a cat, and imitate all kinds of birds and animals; but it is those only which have broad heads in the region of Imitation, that can be taught anything. A lady informed me that she had had a number of these birds, and could not succeed in teaching those anything which had narrow heads, but found no difficulty in teaching those whose heads were broad.

14. The monkey, that little mischievous creature, and orang-outang, appear to be almost equal to human beings; for they can do almost everything which we can

do, but talk. I will relate to you a story about a monkey, which I used to see every day. He was a most remarkable monkey. There were a great many cats—and some very fine ones too—in the neighbourhood where he lived; but he was as particular in the choice of his associates, as many ladies and gentlemen are about their company. There was one particular cat that he would deign to notice, or permit to come near him.

15. This cat and monkey appeared to have great fondness for each other. They would play and eat together, but the monkey would always assert his rights; and whenever the cat put anything into its mouth, which the monkey wished for, he would open the cat's mouth with his paw and take it out; yet they never quarrelled, for the peaceable cat would yield as a matter of course.

16. Monkeys certainly have very large Imitation, for they can be taught to do almost anything. There was once a very mischievous monkey on board of a ship at sea. One day several of the seamen looked for their caps, and discovered that the monkey had ascended the tall mast with them in his paw. How to get them again they could not imagine, for there sat the monkey many feet above them on the top of the mast, looking as wise as a sage, where, if he had made one false movement, both himself and caps would have been precipitated into the water. One of the men had heard of their disposition to imitate, and thought he would try an experiment; so he threw something up into the air, which fell on the deck. The monkey, who watched his actions, threw one of the caps into the air, and down that fell on the deck. They continued the experiment until they recovered all their caps, much to the satisfaction of the monkey as well as of the men.

17. Children, exercise the organ of Imitation, but learn to make this distinction, that you should recollect only what is worthy of remembrance; copy the good, but neglect the evil.

QUESTIONS.—Give the definition of Imitation. Name its location. 1. State what all must admit. State what is said of the imitating of children. 2. State when a child could learn other languages as readily as the English. Why? State what he could understand. State what he could learn. 3. State what is the cause of the difference of behaviour of different children. State the examples that are given. 4. State what children often do. State what influence one bad boy has, and why? 5. Relate the anecdote of Andrew and his mother. 6. How did this affect George? 7. For what purpose were the above anecdotes related? State what brothers and sisters should avoid. 8. State what Imitation and Constructiveness enable a person to do. 9. Have the Chinese Imitation? What is said of the Imitation of the Chinese, and the result of it? 10. State what there is in every country. State what the advantages of this organ are. 11. Name another way in which it is exhibited. State when the result is evil. 12. What is said of the imitation of parrots? Of the imitation of mocking-birds? State what kind only can be taught anything. State what is said of the monkey and orang-outang. 14, 15. Relate the anecdote of the monkey and cat. 16. Relate the anecdote of the monkey and the caps. 17. What distinction should be made in reference to this organ?

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23. **Mirthfulness.** DEFINITION.—Playfulness, perception of the absurd, ludicrous and ridiculous; ability to joke, make fun, and ridicule. LOCATION.—Mirthfulness is situated on each side of Causality—an organ which I shall describe hereafter—and gives breadth to the forehead.

1. "Work is done  
Play's begun,  
Now we have  
Our laugh and fun.  
Happy days,  
Pretty plays,  
And no naughty ways."

2. I need not tell you that children laugh, play, and make fun; this you know as well as I. The organ of Mirthfulness was given to us for the chief purpose of creating cheerfulness and playfulness of spirit; of saying witty and humorous things and making us lively and mirthful. A great many people laugh who have no wit, so that it is not always those persons who laugh the loudest that have this organ the largest.

3. Mirthfulness also acts with the other organs. If the social feelings are large it is then manifested in the social circle. Some are always welcomed wherever they go because they infuse a lively, witty, and cheerful spirit all around them. The mind is diverted from the cares and troubles that crowd on it, and forgets its own sorrows in company with merry and cheerful friends.

4. Those who have large Mirthfulness and Combativeness are continually teasing and vexing their friends. Some boys tease their sisters in every possible way, because they like to gratify this strong feeling of their natures, which they often do to the great annoyance of those who are made the subjects of it, especially if they have not large Mirthfulness.

5. The Irish are said to be very witty as a nation. Real wit produces laughter, and laughter is said to promote digestion. It is proper to laugh and make fun at suitable seasons, always remembering, however, not to make jokes which may injure the feelings of any one. It is not right to ridicule the peculiarities of individuals, either their voices, their manner of walking or their dress; for all persons have their peculiarities of which sport might be made. Especially avoid making fun of the aged, for in a few years you will lose your light elastic step; your limbs will become numb and stiff, and you may perhaps totter along, and be, like them, crippled and decrepid old men and women, and you will not wish to be ridiculed.

6. Learn to be cheerful, lively, animated, and mirthful, you will enjoy better health than if you were sober and sedate. A bow is stronger for being sometimes unbent; so the muscles are stronger for being often relaxed, and the mind is more active and vigorous when we indulge in innocent recreation; for though

“All play and no work makes Jack a mere toy,  
All work and no play makes him a dull boy.”

QUESTIONS.—Give the definition of Mirthfulness. State its location. 1. Repeat the first paragraph. 2. State who exercise this organ, and for what purpose it was given to us. Do all those who laugh have this organ? 3. Explain in what way Mirthfulness and the social feelings act. State why this is a good combination. 4. In what way does it combine with Combativeness? 5. State when we should use this organ and when not. State what children should avoid. Why? 6. State what disposition children should cultivate. Why?

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## CHAPTER VII.

### OBSERVING, PERCEPTIVE, AND KNOWING FACULTIES.

We have now come to the purely intellectual faculties. These are divided into two general classes, the Perceptive and Reflective Faculties. We shall first speak of the Perceptive Faculties. Their general use or object is to look, see, remember, collect facts and anecdotes, and remember them. I will tell you about

**24. Individuality.** DEFINITION.—Observation, power of seeing and noticing objects, desire of looking at everything, curiosity. LOCATION.—Individuality is situated at the root of the nose, in the lower part of the head, and when large, gives fullness there.

1. Individuality is one of the first organs that is developed in the mind of the child; and it is a wise order of nature that such is the fact, for the infant is ignorant of everything around him. It does not even know or recognise its own parents, and has no idea whatever of any object in creation. Its mind is like a blank book full of leaves, but without ideas and impressions.

2. What is the first thing that the little tiny tender infant does? It opens its little eyes, and looks, and looks; it gazes at everything around it, and the little creature appears to be delighted when its attention is attracted to any bright object, as the light or fire.

3. The child observes, and by observing it distinguishes its mother, and is conscious when she is present. The older it becomes, the more it looks and notices, and when Imitation has taught it to prattle and talk, it commences to ask questions, which is as natural to the child as to see



4. You all know, children, that you can understand much better what flowers, birds, and animals are by seeing them; and when you receive instruction in school, you know how much easier it is for you to understand, when your teacher shows you something which represents what she is talking about. Those who are born blind can learn a great deal, but they cannot comprehend of how much they are deprived.

5. There was quite an aged gentleman who was so near-sighted that he was unable to see the stars at night; some persons procured a pair of spectacles for him, by which means his sight was so much improved that he could behold those worlds of beauty and light. His soul was filled with admiration, and he could never be satisfied in beholding them. He said he never had any idea that they were half so beautiful.

6. Individuality is generally large in children, yet if it be not cultivated and strengthened by use, it will not be of much service. Two persons walk together in the street of a city; one will notice every house, every square, and every man and woman he meets, and will see everything that is to be seen; while the other only takes half a glance, and could not tell, the next time he passed through the same street, whether he had ever been there before or not. Travellers who visit the same countries give very different descriptions of the same places because they have different degrees of Individuality, joined with other organs.

7. This organ sometimes gives curiosity to see and hear everything that transpires around us. It is this feeling of curiosity that probably disposes some children to be so meddlesome when they commence walking. They extend their hands, and put their little fingers on everything they see, and frequently do a great deal of mischief, while they are only seeing, seeing, looking, looking, just as they were designed to do.

8. The child crawls into the closet and pulls over the box of flour on its mother's clean carpet. This is amusement to the little one, and, unconscious of the mischief it has done, its little imagination has been exercised by thinking how beautifully the carpet was painted white.

9. You must not only look and observe, but you must learn to distinguish the difference between different things. Wherever you go, you must use your Individuality and notice everything.

10. If you should attend the museum, look distinctly at everything before you, and then ask questions about the birds, animals, and images. When you see an individual, look at his eyes, his hair, his nose, &c., and try to remember them. When you see a picture or an engraving, observe every tree, figure, house, &c. In this way, and in this way only, you will gain much information, which will always be of service to you.

11. Of what use is your Benevolence, if you do not discern the difference between true objects of charity and pretended beggars? You might give away all you possess, without benefiting those who needed alms. Of what use is your Constructiveness, if you do not notice the manner in which things are fitted and made? It will profit you nothing. Of what use is Ideality to you, unless you are delighted to observe the beauties and sublimities of nature. The rainbow would pass away before you noticed it. You could not appreciate the works of art or of nature, merely because you did not see them.

12. See a gentleman looking with a telescope at the stars. If he had no Individuality, he would not be able to perceive them, neither would he have any inclination to look at them. Children, observe, look, take notice, and every day will add to your store of knowledge.

QUESTIONS.—State what the subject of chapter seventh is. Into what two classes are these divided? State what the use of the perceptive faculties is. State what the definition of Individuality is. State its location. 1. Of what use is this organ to the child, and when is it developed? 2, 3. In what ways does it show this organ? 4. In what way can children best understand what they learn? 5. Relate the anecdote of the gentleman who was near-sighted. 6. In whom is this organ generally large? In what way do persons show the strength or deficiency of this organ? 7. State what feeling this organ gives. How do children frequently gratify it? State what is probably their motive. 8. Illustrate this by the child. 9. State what what you must do besides look and observe. 10. In what ways can much information be gained? 11. State when Benevolence would be useless. Constructiveness. Ideality. 12. How is Individuality manifested? State what general direction is given to children.

**25. Form.** DEFINITION.—Idea of shapes, outlines, faces, able to commit to memory. LOCATION.—Form is situated between the eyes, and, when large, gives width there.

1. If there were no form or shape to objects, this world would be a state of confusion, but everything we see has a regular form, and a regular shape. By means of Form and Individuality, we learn to distinguish one person from another—one book and one house from another. When we read, we remember different words by their form. We learn to spell by remembering the shape and the forms of the letters.

2. Those who have large Form can learn to draw easily, and can make correct outlines and proportions. They can also commit to memory what they read or hear. There are some who can repeat, after they have studied their lesson, every word, just as it is in their book. Some can repeat almost the whole Bible, but it is only those persons whose eyes are wide apart where the organ of Form is located.

3. Such persons can learn to read easily, and can generally remember what they read much better than those who are narrow between their eyes. This is a fact that universally holds true in every instance. Children, notice your companions, use your Individuality, and see if those in your class who generally recite their lessons the most promptly, have not a wide space between their eyes.

4. Dr. Gall, when a young man, noticed his schoolmates, and found it to be unexceptionably the case. This organ of Form was one of the first that he discovered, and it was one in which he was very deficient.

QUESTIONS.—State what the definition of Form is. State its location. 1. State what the result would be without Form or shape. State what we learn by means of Form and Individuality. 2. State what the advantages of this organ are. 3. State what fact is universally true. State what all children can notice. 4. State who discovered this organ. By what means?

**26. Size.** DEFINITION.—Ability to judge of the length, breadth, height, proportions, and distances of objects. LOCATION.—Size is situated next to Form, at the commencement of the arch of the eyebrow.

1. If we examine this organ, we shall perceive that it is as important as its neighbour, Form. By Size, we learn that one object is larger or smaller than another. Form gives us a knowledge of the shape, while Size enables us to tell the difference between their bulk.

2. Form would tell us that apples are round, while Size would teach us that one was smaller than the other and that one pillar was larger and taller than the other, although in each case both have the same shape. Some have this organ so large, that they can measure correctly by the eye, while others have very limited ideas of the difference between objects.

3. Children sometimes have wrong ideas on this subject. They are very apt to imagine that the smallest piece of anything is given to them, while, if they are the givers, they are inclined to imagine that they give away the largest piece, which is frequently not the case.

4. When persons have large organs of Marvellousness and Size, they exaggerate, or greatly misrepresent what they see or hear. "Why, I saw a horse as big as an alligator," said she. "My sister is twice as big as I," said another. "Why, mother, the man had nearly fifty bushels of apples"—when in fact he had only five or six—said a little boy to his mother, when she told her son to carry back an apple he had taken from the gentleman without his permission.

5. A mother told me that she once heard her two little boys conversing with each other. Said George, "I have seen a railroad that reached two miles;" little Henry looked into his brother's face, and said, "I saw one that would reach as far as Lowell," which was five or six miles from the place where they lived. These little boys had no correct idea of distances, but the distance to the next town appeared very extensive. Little boys and girls frequently exaggerate very much when they speak of the different sizes of things.

QUESTIONS.—Give the definition of Size. Name its location. 1. State what the difference between Form and Size is. 2. State what large Size enables some to do. 3. State what wrong ideas some children have in reference to Size. 4. State what the

influences of larger Size and Marvellousness are. Give examples. 5. Relate the conversation between Henry and George. Of what had these boys very little idea? To what does this organ lead frequently?

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**27. Weight.** DEFINITION.—Powers of balancing, shooting, walking on the ice, perception of gravity. LOCATION.—Weight is situated on each side, next to Size, in the arch of the eyebrow.

1. We can perceive that bodies have different forms, different sizes, and different proportions, but we require a separate organ to ascertain that one body is heavier than another. This organ we have in precisely the best position in which it could be placed, next to Size and Form.

2. When persons have large Form, Size, and Weight, they can, by practice, become good marksmen, can aim and shoot correctly. William Tell was doomed to death, for attempting to incite his countrymen to rebel against the yoke of tyranny, which their cruel king had imposed upon them. His sentence was changed. He was commanded to shoot an apple from the head of his son, who was placed several yards from him. Life was granted to him on this condition only.

3. This son was the pride of his soul and the father would have preferred to sacrifice his own life, of which he was weary, rather than that even one hair of his son's head should be injured. But the decree had gone forth, and the father drew his unerring bow. The arrow stopped not in its flight, but sped on its way, cleft the apple in two, and, with it, fell to the ground. William Tell must have possessed large Form, Size, and Weight.

4. He also had large Firmness, undaunted courage, and resolution; for, as the applause of the surrounding multitude rose in the air at the exhibition of his skill, an arrow, which had been concealed under his coat, fell to the ground. The king, perceiving this, immediately inquired what he had intended to do with it. With persevering boldness, Tell replied, "To slay thee, tyrant, had I slain my son."

5. By means of Weight we are enabled to balance our bodies in walking. We might learn to move our feet by Imitation, yet we should be continually falling if we could not balance our bodies properly. The stars and the moon would come tumbling down to the earth if they were not balanced; houses would shake and fall, and everything would be in a confused state.

6. There is what is called the attraction of gravitation, which keeps us all in our respective places. Another name for this gravitation is Weight. If there were no air, all bodies would be the same, as to their weight. It is the organ of Weight which gives to rope-dancers their great power.

7. A gentleman told me that he once saw a girl walk on a rope twenty feet in length. This rope was ten feet from the ground, over the audience. He also saw a man roll a wheelbarrow on a rope, in which was his own child. These persons had not only a very large organ of Weight, but it had been trained and cultivated.

8. Children frequently exercise this organ by climbing the backs of chairs, skating on the ice, walking on stilts, sliding or coasting down on the snow, and in a variety of other ways. Cultivate this organ, and you will save yourselves many tumbles, and sore and bruised limbs.

QUESTIONS.—Give the definition of Weight. Name its location. 1. State what is said of the situation of Weight. State why Weight is necessary. 2. State what large Form, Size, and Weight enable persons to do. Relate the anecdote of William Tell. 3. State why this was a peculiar trial. State what the result was. 4. In what way did Tell show great Firmness and resolution? 5. State what the advantages of this organ are. 6. State what we mean by Weight. State what also is necessary. State what class of persons it assists. 7. Relate the anecdote of the feat of the girl and the man. 8. In what way do children exercise this organ? State why it should be cultivated.

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**28. Colour.** DEFINITION.—Perception of colours, shades, hue, tints, delight in painting. LOCATION.—Colour is situated next to Weight, in the arch of the eyebrow.

1. As we look abroad on the face of Nature, we see a rich variety of hues and colours. If everything had been black or white, we should have become weary with

beholding it, but everything in Nature is coloured in those proportions that please our eyes.

2. Even a single ray of light can be separated into seven beautiful colours by means of a three-cornered or triangular piece of glass, called a prism. We have the green grass for a carpet, and the blue sky, which is variegated with different tints, for a canopy; the beautiful rainbow appears at times in the clouds, to please us by its presence. As we find all these different tints and hues around us, we have also an organ given to us, expressly for the purpose of enabling us to admire and appreciate these different tints.

3. Those who have the organ of Colour largely developed, are much pleased with flowers and gardens; they are fond of painting, and selecting colours. This organ, like all others, is capable of much cultivation. In some persons it is quite deficient. A gentleman who had this organ small, could not remember the colour of his wife's eye, or tell the difference between light and dark shades.

4. He attempted, when a lad, to act as clerk in a store, but discovered that he had mistaken his calling, for he had to take down several cases of goods before he could suit his customers to the kind and colour wanted.

5. If they wished a certain kind of gloves, he was compelled to show them several different colours, that they might make a selection. If this gentleman had only known of the deficiency of this organ in his brain, he would have endeavoured to cultivate it, and would not have placed himself in a situation where a correct knowledge of it was required so often during the day. He would have chosen some other business, for which he was better adapted. All should strive to know their own faculties and power.

QUESTIONS.—Give the definition of Colour. Name its location. 1. State what Nature is adorned with. State why this is for our happiness. 2. State what is said of a ray of light. State what some of the different colours in nature are. State what the design of the organ of Colour is. 3. In what way is this organ exhibited? State what the effects of its deficiency are. 4, 5. Relate the fact of the gentleman in whom it was deficient. In what way could he have avoided all difficulty? State what follows as a truth.

**29. Order.** DEFINITION.—Neatness, arrangement, system, method. LOCATION.—Order is situated next to Weight, in the arch of the eyebrow.

1. When a child, Maria attended a school, in which there were numerous wise sayings, written in large letters, and placed in conspicuous parts of the room. One of these was, "A place for everything, and everything in its place." She then thought it a very singular sentence for the schoolroom, and wondered of what use it was. She had not been there long as a scholar, before one of the girls came to her in haste, and asked her if she would lend her a slate-pencil, having, as she said, misplaced or lost hers.

2. She accordingly handed her hers. She told her that it was the only one she had, and wished to have it soon. Presently another girl came to borrow her slate—as if she had left hers at home—and promised that she certainly would return it before Maria needed it. She took the slate, and went to her seat. Very soon after another girl came, and asked for Maria's arithmetic, as a leaf was torn from hers.

3. On looking around, Maria found this to be quite a common practice, and, supposing it to be only a manifestation of a neighbourly spirit, thought no more about it. Soon school was commenced—for all this took place before the bell rang for the scholars to go to their respective places.

4. It was nearly time for Maria to recite her arithmetic lesson; so she looked into her desk for her slate and pencil in order to work out her sums, not thinking that she had lent them; but lo! they were not there—her arithmetic had gone also; the result of it was, that she failed in her lesson. The teacher inquired the cause; and when Maria told him he pointed to the wall, and said to her schoolmates, "A place for everything, and everything in its place." Maria now comprehended in a slight degree its use in the schoolroom, and every day became more convinced that it was an important consideration, for sometimes the "chalk would walk away," as the girls said, and then an atlas would be missing, then a book, and so on. Not that this school was disorderly, and without government—far from that—but in every school there are those who have no particular place for their books and other apparatus, and are continually losing them, and borrowing from others.

5. Children, I wish you to think of what I have said, and then you will notice many things that now escape your observation. You will find that all those persons who have the little space next to Colour swelled, or largely developed, are always neat and orderly. They are never at a loss to find anything that belongs to them even in the dark.

6. Different persons exhibit the influence of this organ differently. One person may be very neat and orderly about the house. Others are systematic in all their plans, thoughts, arrangements, papers, &c., so that the organ of Order is influenced much by other faculties.

7. I do not mean to say that if a person has a large organ, he or she cannot help showing or developing it, and if it be small, that it is impossible for him or her to use it, but I do say, when we are conscious that we have an organ naturally small, it is our duty to exercise it, that it may increase, for a character is more perfect when all the organs are fully developed without extremes.

8. When children have small Order, they put their hats and bonnets in one place, their gloves in another, strew their books here and there, and their playthings over the floor in wild confusion, which often requires the servants or their mothers to be almost constantly employed in putting them in their proper places. Then when Mary intends to take a walk, she has to hunt for her tippet, her glove, or her bonnet-string, which makes her fretful and impatient, and takes away half the pleasure which the walk would otherwise have afforded.

9. This is not right, children. You can be neat, you can be orderly; you must be so. It is precisely as easy, when James comes from school, for him to hang his hat, coat, and mittens, on a particular nail, and for Mary to do the same, as it is for them to come into the house, and to throw everything on the first stool or chair which is near. And, as I have previously told you, the characters of men and women are formed, in a great degree, while they are children; the seeds are sown in youth that spring up and bear fruit in riper years.

10. If you be neat and systematic when you are young, you will be so when you arrive at years of maturity. The neat little girl will make a neat and particular housekeeper; the neat little boy, who takes care of his things while he is young, will take care of what he has when he becomes a man.

11. If we could look over the private drawers of some ladies, we might see a want of arrangement; and if we should look into the offices and studies of some gentlemen, we should find "confusion worse confounded." If you feel that you are at all deficient in this faculty, endeavour to cultivate it, for it is of great importance to you that you be systematic and orderly.

12. We see in all works of Nature perfect system. "Order is Heaven's first law," and although there are innumerable worlds and systems of worlds revolving around their own axes, and around the sun as a common centre, yet all move in their respective places without any confusion or want of order. The same holds true in every thing which we see around us.

**QUESTIONS.**—Give the definition of Order. Name its location. 1. State what there was peculiar in the schoolroom where Maria was a scholar. State what she thought of it. 2. State what favours some of the scholars asked, and what she told them. 3. How did she account for this? Was this in school hours? 4. State what Maria did after the school had commenced. State what the result was. State what her teacher said. State what convinced Maria that this was an important maxim. Was this a disorderly school? Who are in every school? 5. State what children will find to be true if they take much notice. 6. State what some of the different ways are in which this organ is exhibited. By what is it influenced? 7. State what is said of those who have an organ large. State what the duty is of those who have an organ small. Why? 8. State what are the effects of small Order in children. In what way is careless Mary's pleasure diminished when she wishes to take a walk? 9. State what children can be. What follows? State what Mary and James should do on their return from school. State why children should be careful of their conduct when young. 10. State what the neat little girl will become when old. The neat little boy. 11. In what way do ladies show a want of Order? Gentlemen? State when we should cultivate this organ. 12. State what we see in Nature. State what Order is said to be. How true is this? To what does it extend?

**30. Calculation.** **DEFINITION.**—Ability to reckon, count, compute numbers and figures in the head. **LOCATION.**—Calculation is situated next to Order, and is at the termination of the arch of the eyebrow.

1. One of the first things which a child is taught is to count his fingers. It appears pleased to do this, not as a task, but as an amusement. I have sometimes thought there must be some magic in this counting over one, two, three, four, &c., by the fingers, for all children like to do it.

2. As they become older, however, when they see in their little arithmetics, the question: How many apples are two and two more added? They think that there is something more difficult than counting. It then appears to many a task, and they dislike it, and the older they become the more distaste they acquire for this study. Some succeed in the higher branches of arithmetic, as in geometry and algebra, which are called mathematics, when they are unable to count and reckon mentally, or "in the head," as it is called.

3. Such persons do not, frequently, have a large organ of Calculation, but have the reasoning organs, which I shall describe presently, well developed.

4. Mary and Jane attended the same school. Mary was very quick in figures, and liked the study of arithmetic. She would go to the blackboard, make her figures on it, add and subtract as quickly as her fingers could move. She was very apt, and learned without difficulty. Jane was very anxious to gain a knowledge of her lesson, but scarcely ever knew it perfectly. She said that it was impossible for her to perform her sums, and made very little progress. As day after day passed away, her class-mate advanced beyond her, overcoming all difficulties, which made both Jane and her teacher very unhappy.

5. Some may inquire in what the difference between these two girls consisted. If we could see them we should perceive that the termination of the arch of the eyebrow was not so fully developed in Jane as in Mary; or, in other words, that one had a large organ of Calculation and that the other was deficient in it.

6. There is a natural difference in the capacity of different individuals, which cultivation cannot overcome; still much depends on cultivation, and a person with deficient Calculation, can improve it a great deal by exercising the organ.

7. If children were taught, when young, to add, subtract, and multiply little sums in their heads by way of amusement, it would become very easy to them; and we should not then see so many clerks in our stores put down on their slates every little article that is purchased, add it, and put down the amount with their pencils, for they would be able to remember and cast the amount in their heads.

8. Zerah Bolburn, when a boy, was very rapid in computing numbers. Eli Stamford is another example; he, also, has a large organ of Calculation. George Combe has the organ small, and he was never able to learn the multiplication table, although he was a very learned and scientific man.

QUESTIONS—Give the definition of Calculation. Name its location. 1. What is one of the first things that all children learn to do? Why is this a pleasure? 2. What is the fact when they become older? In what do some succeed? What do they require beside this organ? 4. Relate the anecdote of Mary and Jane. 5. What was the cause of difference between them? 6. What is there between all individuals? On what does much depend? Explain this. 7. In what way could arithmetic be rendered easy to all? What would be the result of it? 8. What examples are given where this organ was large? What is said of the calculation of George Combe?

**31. Locality.** DEFINITION.—Place, memory of place, location, direction, ability to learn geography. LOCATION.—Locality is situated directly over Size and Weight.

1. I told you in my description of Order, that everything must have a place. I will now inform you what I mean by place. If there were no place or places, this world would not exist in its present form; neither could we; for, if we sit, the something on which we sit must be a place; so also when we are standing.

2. We see a house, and this house is situated somewhere in a place, or else it is not a house; but if it be not a house, it must be timber, bricks, and mortar; but if these fall, or if they stand, they require a place on which they can stand; so we might say of the stars and the planets; therefore we find that everything has a place, if it be not always in that place.

3. The organ of Locality is designed to teach us to remember the location and situation of places. It also gives us a desire to travel to see different places. This organ assists in the study of geography, when you learn all about different countries,

the oceans, seas, rivers, cities, plains, and mountains. It would be useless for you to learn the name if you did not attach some idea to that name; although I have heard many children repeat over a long list of rivers and mountains, and then, perhaps, forget them the next day.

4. When a child, I frequently heard of Boston, New York, and Philadelphia, and have often wondered where these cities could be. I knew their direction on the atlas, but could not comprehend where they were till I visited them; after which I could never forget them, and I suppose that such is the case with most children.

5. Some, with large Locality, will find their way over a large city the first time they go out. They take the right course, as if by instinct, while others, with small Locality, easily lose their way. Savages have large Locality. They can find their way through the trackless forest, and need no guide, compass, or direction.

6. Horses have this organ largely developed, and almost invariably take the right direction, especially when returning to their home, if the distance be ever so great. Dogs have this organ large, and thus can always find their way. I shall speak more of this quality in them when I tell you about the sense of smelling.

7. Birds must have this organ. The sparrow builds her nest in the tree, lays her eggs, rears her young, and when cold winter approaches she flies away thousands of miles to the warm and sunny climes, where she will spend a few months, and when winter is passed she flies back to her old nest again, to lay her eggs. She will do this for many years, if she is not disturbed by men or boys.

8. There is a bird called the carrier pigeon, which can be trained so as to carry notes in its bill from one place to another, which is accomplished by the development of this organ.

9. Locality will aid you in the study of astronomy, which all children should learn as soon as they can understand it. Even young children can understand a great deal about it. When you see Venus in the western sky, so bright and beautiful as she is, can you forget that she is a planet?

10. When you ask what a planet is, and you are told that it is a dark body, which revolves or turns round the sun, and then again should ask why it appears so bright if a dark body, and again you are told that the bright light of the sun shines on it, and reflects that light to us, just the same as a dark looking-glass reflects an image, so that we see an image in the glass though we all know that our persons are not in the glass—when you hear these things, will you forget them? Can you not understand them?

11. You often comprehend more of what your friends tell you than they imagine. I cannot explain to you more about these stars and planets at the present time. Locality will also aid you in the study of Phrenology and Physiology. When I inform you that the brain is in the skull, that the heart is near the left side, and tell you the situation of the different parts of the body, and the faculties of the mind, you will remember them. This organ is cultivated best by travelling, and seeing different countries.

**QUESTIONS.**—Give the definition of Locality. Name its location. 1. Why must everything have a place? 2. What illustrations are given? 3. What is the design of this organ, and what desire does it give us? In that is it an assistance? What is it useless for us to do? 4. What clearer ideas can we gain by means of this organ? 5. What are some enabled to do who have the organ? Illustrate by the savages. 6. What is said of the locality of the horse? The dog? 7. What is said of the locality of birds? 8. The carrier pigeon. 9. In what will Locality be of aid? How much of astronomy can children easily understand? 10. Give the illustration. 11. What do children comprehend? What other studies require the aid of Locality? Explain.

**32. Eventuality.** **DEFINITION.**—Fondness for events, stories, desire for information, love of experiments, general memory of facts and particulars. **LOCATION.**—Eventuality is situated immediately above Individuality.

1. "A story, a story, please to tell me a story," cries almost every child, as soon as it can understand what language means; and the same story affords amusement if related several times in succession. I well remember a story about a little bird, which built its nest in the green leafy bough, which I have related again and again to a bright-eyed little nephew, about three years of age, and the little creature's eyes sparkled as I explained to him the manner in which the large bird taught the little ones how to fly.

2. Children learn a great many things by means of this organ, which they would not gain from any other source, for they do not like to read and confine their attention to anything for a long time, especially if it appears dull and prosy. They listen eagerly to what affords them amusement, and are much more likely to remember it.

3. If a child were told the history of Joseph and his brethren, of Moses, or of Daniel, or other remarkable men whose deeds are related in the Bible, his mind would become interested at once, and he would eagerly drink in the story and wish to have more.

4. There are many tribes of Indians who have no written books, no written history; but the old men, the fathers and patriarchs of the tribe, are accustomed to gather their children and grandchildren around them, and relate all the deeds and achievements of their forefathers, from their earliest history to the present time. They tell them of their wars and battles, their marches, their conquests, and their victories; and these, in their turn, relate the same deeds to their children, and in this way their history is perpetuated from father to son, through every generation. The history is considered by them as something sacred and holy, strictly correct, and is regarded with as much reverence as our Bible. These Indians have large Eventuality.

5. Those who have this organ generally like to read the histories of different nations, and remember all about the different kings and queens, the rise and fall of empires, and the wars and battles in which nations have been engaged.

6. Children, however, may hear a great many stories and anecdotes, may gain a vast amount of knowledge, and may acquire much valuable information, and yet all this may be useless to them.

7. Suppose a farmer had a storehouse in which he was constantly putting grain, but which, as fast as he put it in, leaked out through little holes in the floor. How much do you think he would accumulate? Would not his labour be useless?

8. It is precisely so with our minds. The organ of Eventuality is the storehouse of our mind. In this we gather all our facts, stories, and events; but if this has not been cultivated with care and attention, all our ideas will leak out of it as the wheat in the barn or granary. Notice different individuals, and you will perceive that some have a little hole in the middle of their foreheads. It is this little hole through which their ideas are fast leaking out.

9. Said an old physician to one who had just completed his studies, "I have forgotten more than you now know." This little hole in his forehead would have told the secret, if he had not disclosed it himself.

10. How frequently do we hear the remark, "I know, but cannot recall or recollect the idea." This saying is so common that we hear it many times during a day. This is not right. Every one who has a good memory should not blame any one but himself or herself; for, when children, their memory was excellent. It only shows that they have not taken proper care of the faculty.

11. Children, remember something every day; make it a point of duty, as much as to eat your regular meals. The Pythagoreans were accustomed every night, to review their actions during the day three times, to see what they had learned.

12. Titus, who was an excellent Roman emperor, used to look over his thoughts and deeds every night; and if he had not done some good thing, he exclaimed, "I have lost a day."

13. Time is too precious to be lost, and we should not only endeavour to learn something new every day, but remember it when learned. Many scholars, after their school days are past, lay aside their books, and appear to feel relieved from their task—as they say—either of learning or remembering anything more. But I wish to impress on your minds, that—

'Tis greatly wise to talk of our past hours,  
And ask them what report they bore to heaven.

14. If we do this we shall be both happier and wiser, and answer better the end of our existence. We were not created with minds, to waste all our energies on our bodies; but to improve and bring out every faculty to its greatest extent.

QUESTIONS.—State the definition of Eventuality. State its location. 1. Say what all children are pleased with. Say what amused a little boy. 2. State why stories are useful. 3. Illustrate this. 4. State what is very common among the Indians. How are these regarded by them? 5. State what desire this organ gives. 6. State what may be useless to children. 7. Illustrate this by the farmer. 8. How will



this compare with our minds? State what will be seen from observations. 9. Remarks of a physician. State what would have said the same. 10. State what is a very common remark. State why this is not right. State what it shows. 11. State what children should do. State what the Pythagoreans did. 12. State what was the custom of Titus. 13. State what we should all endeavour to do, and why. State what should be impressed on the mind. 14. State what the design of our creation was.

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**33. Time.** DEFINITION.—Memory of dates, of the lapse and duration of time. LOCATION.—Time is situated next to Locality, immediately above Colour.

1. What is meant by Time? We are conscious of something which we call hours, days, and weeks. We know that these days, weeks, and months, are passing away. Again, we look forward, especially if we have lively hopes and anticipations, to months and years to come.

2. So we perceive that our existence is divided into time past, present, and future; and all those persons who have that part of the head over the organ of Colour large, where the organ of Time is located, will be able to remember these different successions of events.

3. They can look back through their lives, and recall different acts at particular seasons; they will be able to recollect dates in history, and will have a good knowledge of the periods of time, as it passes.

If we should train this organ as much as it is susceptible of being trained, we should not need timepieces to tell us the hour of the day, but should know ourselves nearly as well without their assistance as with them. If Sarah had a large organ of Time, or if she had exercised it properly when her mother gave her permission to spend half an hour with her playmate, she would have known precisely when she was to return home.

4. Some can tell what time it is in the night at any hour whenever they wake; they can also tell the hour correctly in the daytime. A difference in the development of this organ is the reason why some are never punctual in keeping engagements, while others are always on the spot at the appointed hour. It is said that when Howard made an engagement with any one he never broke it.

5. It is very annoying to a teacher, lecturer, or minister, to have his pupils or his audience come in one by one instead of being present at the appointed hour. How much is lost by a little delay, by getting a little behind the hour!

6. A gentleman, who was deficient in the organ of Time, once intended to go to the city to meet some friends who were soon to leave for Europe. When he reached the wharf he discovered that he was several minutes too late for the steamboat. He thought that he could go just as well by the next boat on the morrow, and by much exertion he succeeded in being in time for it; but when he arrived at the city he found that his friends had left for Europe several hours before his arrival, and that if he had reached the city by the previous boat he would have had the pleasure of seeing them.

7. He was much disappointed, but it was a good lesson for him which he did not soon forget. You see that this is an important organ, and that there are advantages and disadvantages arising from the existence of deficiency of it. Choose the good and leave the evil.

8. This organ is represented by an old man with a scythe, and with wings, to warn us of the flight of time—that it passes rapidly away. As the sand oozes through the hour-glass, so do the sands of life ebb to their termination.

QUESTIONS.—State what the definition of Time is. State its location. 1. State what questions we ask in reference to time, and why. 2. How is time divided? 3. State what the effects and the advantages of the organ of Time are. 4. State what some can tell in the night. Say why some break engagements while others always keep them. 5. In what way is the teacher, lecturer, or minister annoyed? 6, 7. Relate the case of the gentleman who had deficient Time.

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**34. Tune.** DEFINITION.—Perception of music and sweet sounds, ability to learn tunes easily. LOCATION.—Tune is situated above the organ of Locality.

1. Who has not been delighted in "the merry, merry month of May," to be awakened from the slumbers of the night by the sweet warblers of the wood.

"Birds are free

So are we,

And we sing as happily."

2. The birds greet us with their cheerful song, as if to woo us forth from our homes, to enjoy the beauties of nature. I have thought that birds had a delightful home in the green leafy bough, and have felt that they appreciated their privilege, and pour forth the joyousness of their souls in song. They appear to be as happy all the day long; they have an abundance of pure air to breathe, and they can procure sufficient food for their young.

3. It is a pleasant sight to watch them as they build their little nests, and bring bits of straw, mud, and wool to make a soft pillow for their dear little young. I have often wished, when a very little child, that I was a bird, that I might roam all over the beautiful countries of the earth, and that "I had the wings of a dove, that I might fly away and be at rest."

4. I think the bird must be a happy creature, and I cannot imagine how any one can be so cruel as to rob its nest of its little eggs, or steal the young and tender birds, and thus cause that wailing note of the mother, instead of that song of gladness. I must tell you a story about the love and tenderness of a parent bird for its young. There was once a bird that built its nest in a tree, where she watched over her young birds.

5. She observed a serpent creeping along the ground to the tree. She began to cry loudly, and flew away, but came back very quickly, bringing in her mouth some ivy leaves, which she placed round the nest; she went backward and forward till she had filled the nest with these leaves.

6. The snake made its way up the trees, but as it reached the nest, and put in its head, it immediately fell back to the ground, and soon expired. How the bird knew that this kind of leaf would poison this deadly animal, or discovered how to obtain it, is a mystery; but such was the case. A mother could not have done more for her children than this bird did for her young. Children, never be cruel to birds. Remember they are innocent, happy songsters, and that we ought not needlessly to destroy any of the melody which there is in nature.

7. Bees have their song, as "busily they build their cell, and neatly spread their wax." They have a language, which is their music. I have thought that I would like to be a little bee, that might repose in the bosom of some fragrant flower. I would nestle in the embrace of the modest violet, as my home, and would gather honey all the day from every opening flower.

8. We should imagine that the bees had the sweetest disposition of all creatures; for Flora's garden is open for their rambling. There are no bars to impede their approach, but they can roam hither and thither as they please. It has seemed to me that they possessed an inherent spirit to inflict so much misery by their sting; but I suppose that they are often disturbed and troubled by boys and men.

9. If God had not intended that we should sing, he would not have given us taste for music, neither the power to execute it.

10. There is a muscle of the face, that passes immediately over the organ of Tune, so that we cannot always decide as to the actual size of the organ. Besides, some persons are extremely fond of singing, who cannot sing themselves. Their lungs are not sufficiently strong to give compass of voice, and they may have a deficient organ of Time, so that they cannot measure the length of sound; and their organ of Order may be small, so they will not have much system of method. All these qualifications or organs are requisite to enable persons to sing correctly.

11. Tune is influenced by other organs. If Ideality be active, the song will be elevated and refined. If Combativeness and Destructiveness be strong, the songs will partake of a warlike and martial spirit. If Veneration be large, the person will sing psalms and hymns. The reason why Charles whistles, and John plays on the drum, Henry on the violin, and Robert on the flute, while Mary sings sweet songs and performs on the piano, is, because they have all the organ of Tune; but it is influenced by different faculties which predominate over the others.

12. All children may learn to sing, if they commence in season. I do not say that all will have the sweet, musical voice of the nightingale; for some have naturally sweet, mild, and soft voices, when they talk; while others speak in loud, strong and masculine tones. The same is true in regard to singing. But every one can sing in some degree and thus breathe forth the feelings of the heart in song.

13. In Germany, every child is taught to use its voice, while young. In their schools, all join in singing, as a regular exercise, as much as they attend to the study of geography; and, in their churches, the singing is not confined to the choir, who sit apart from the others, perhaps in a corner of the house, but there is a vast tide of music going forth to God from every heart who can give utterance to this language of the soul.

14. Children, sing! yes, sing with your whole hearts! David sang before the Lord, and it is meet that you should do the same and always, when angry feelings rise in your breasts, curb and check them by sweet and cheerful songs.

QUESTIONS.—State what the definition of Tune is. State its location. 1. State what is a source of delight to us. 2. State what you can say about birds. State why they sing. State why they appear happy. 3. State what is a pleasant sight. State what the bird is enabled to do. 4. State what a very cruel thing is. State what the mother bird has for its young. 5, 6. Relate the anecdote of the bird and the snake. State what children should remember. 7. State what is said of bees and their music. State what the little bee is able to do. 8. State why we should think that the bee ought to have a sweet disposition. State what boys often do. 9. State what is a conclusive reason why we should sing. 10. State why it is difficult to ascertain the size of the organ. State what qualities are requisite for correct singing. 11. By what is tune influenced? Give the illustration. 12. State what all can do. State what difference there is in the voices of different persons. 13. State what the case is in Germany, in their schools and churches. 14. State what David did. State when children should particularly sing.

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**35. Language.** DEFINITION.—Ability to talk, to communicate ideas, to use words and appropriate language. LOCATION.—Language is located in the plate of the eye; when it is large it presses the eye downward, and swells out under the eyelid.

1. I have told you of the wonderfully imitative power of the monkey and baboon tribe, of the delightful singing of the nightingales and other warblers of the groves; but man, "who is lord of creation," can do all that these animals can do, and more besides; for he has powers of speech, by which he can communicate all his ideas, and interest, amuse, and instruct his friends.

2. What we mean by voice, is that sound produced in the windpipe by the air in its passage from the lungs, uttered by the lips, teeth, tongue, &c. There are two kinds of voice—the natural and the acquired. The natural voice consists of those sounds that are made without articulation; as the cries which infants make as soon as they are born; the manner in which animals convey ideas to each other—as the horse appears to communicate ideas to another which is constantly with him.

3. The hen gathers her chickens under her wings, when danger approaches, by her clucking, which is perfectly intelligible to her brood. The birds call their little ones together, and the wild beasts of the forests make the country resound with their roar. The dog has a natural language; when his master is in distress, he conveys that idea by barking and howling, and does not cease till some person follows him to ascertain the cause.

4. The acquired or artificial voice results from imitation, by which means the child is enabled to speak words and languages. If the sense of hearing be deficient, or if the child have no intellect, he can never learn to converse. Those who are born deaf can never learn to speak, and are consequently mute or dumb. Some, who have been able both to hear and to speak for many years, lose their hearing entirely, and, frequently, their faculty of speech. Idiots can never talk very well, because they have no intellect.

5. Infants, who cannot speak, have the organ of voice formed as perfectly as when they are older. Many believe that the orang-outang has the power of speech as perfect as we, but having no intellect to guide it, is therefore unable to use these powers. These animals have been known to laugh, but never to talk.

6. As soon as children understand the meaning of words they use them. The more ideas they have the more expressions they use. The reason why some children speak more correctly than others is, that they hear more correct language at home. Most children are great talkers. They are continually saying something, whether it has any meaning or not; and you will generally find, by observation, that in these cases their eyes swell out, as it were, from their heads.

7. The best way to improve the organ of language, to be free and copious in expressing ideas, is to converse. The more persons talk, the more they can say; and the easier it is for them to express themselves. It is also well to write down our thoughts, and to study the French, Spanish, and Italian languages. But in a majority of instances persons learn only to read those languages, to translate them into English, without writing or conversing in them, and this is not wise.

8. There may be other advantages in studying these languages, besides the improvement of our powers of speech. Everyone acknowledges that woman has the power of language, but even she will lose this power if she does not use it. This faculty was given to us by our Maker as the means of communicating our ideas, of promoting social intercourse, and imparting instruction, sympathy, and affection.

9. Notice yourselves the eyes of all your schoolmates, and see if there be not a great difference in their fullness. Some appear as if almost sunk into the head, while others stand out as on a predominance.

10. We have finished the description of the Perceptive or Observing Faculties, and, on reviewing their location, we see how beautifully they are arranged. First, we must look at objects, before we can gain ideas, and we have for this purpose, the organ of Individuality; then, close by its side, is Form, to give us an idea of the different shapes of bodies. Close by Form, is Size, that we may have a more distinct idea of separate objects, as compared with others of the same form. When we know the size of an object, we can judge of its weight, for they have a marked relation to each other; therefore Weight comes next in the rank.

11. Then we have Colour, to enable us to distinguish a light from a dark body, to make us pleased with the varied hues and tints of Nature; we have Order to assist us in arranging all our thoughts, ideas, and plans, with system and method; Eventuality to enable us to store up the ideas we acquire, and to recall them again.

12. Then Locality points out the situation of different places; Time and Tune enable us to appreciate the melody of song; and, lastly, Language, to give utterance to all the different emotions of the mind, and to express our feelings of love, kindness, affection, and sympathy.

13. It has been said by some, that those persons whose foreheads retreat, are often the smartest scholars. It is true, that, when the Perceptive Faculties predominate, they give fullness over the eyes, and to the lower part of the forehead, and enable the person to learn readily, to repeat what she or he has learned; but those are not generally deep, sound, and original scholars, unless they possess the faculties described in the next chapter, which give fullness to the upper part of the forehead.

QUESTIONS.—Give the definition of Language. Name its location. 1. State what is said of the power of animals and men. 2. What is voice? State what is meant by natural voice. 3. Give examples of the natural voice. 4. State what acquired voice is. Give an example. What are necessary besides Imitation? State what results from a want of hearing. 5. How do we know that Intellect is necessary for voice? 6. How soon do children talk? State why some speak more correctly than others. What children have swelled eyes? 7. How can this organ be improved? State why this is a better way than to study languages. 8. State why it is necessary to use this organ. State what its design was. 9. State what difference there is in different persons. 10, 11, 12. Explain the general location of the Perceptive Faculties and their adaption. 13. State what talent those possess who have these faculties. What do they not have?

## CHAPTER VIII.

### REFLECTIVE, OR REASONING INTELLECT.

We have now come to the reasoning intellect, which gives to man the power to think, reason, invent, compare, and draw inferences. It is this that places man supremely above the brute creation, that furnishes him a guide for his conscience in striking out paths of duty, and enables him to follow her dictates. An idiot may be conscientious, kind and benevolent; yet if he has no reason, he cannot discriminate in his actions. The first of the reasoning organs is Causality.

36. **Causality.** DEFINITION.—Desire to know the why and wherefore of actions; to trace out the causes of everything; ability to plan, judge, and think. LOCATION.—Causality is situated on each side of Comparison in the forehead.

1. The organ of Causality is represented by a man who is watching the fall of an apple. You will, no doubt, want to know what it means and how this can apply to the organ of Causality.

2. This organ disposes a person to think, reflect, and meditate; to inquire into causes, and to have a desire to examine principles, and understand their application. Such persons are not contented to use their Individuality in noticing things which occur about them, but are anxious to know why such a cause produced a certain effect.

3. Sir Isaac Newton had a large organ of Causality and a very inquiring mind. As he was sitting in his garden one day, he saw an apple fall from the tree to the ground. He began to think and enquire why it should fall. He then thought that every body which was thrown into the air would fall to the earth; and hence he discovered that every body is drawn or attracted to the centre of the earth by something which is called the attraction of gravitation. He also made many other discoveries. Every one thought that light had only one colour, but he separated and divided it into seven beautiful tints. This resulted from thinking. Many of the books which are written, and all the new discoveries that are made, arise from close and hard thought.

4. Many who have large Causality can plan and originate ideas. They can look ahead, and lay deep schemes. Children generally have this organ large; hence the multitude of questions which they ask, Why is this? What is the reason? and a thousand other questions are continually suggesting themselves to their minds. This is an excellent way to obtain information, if you will ask proper questions, but you should try to find out the answers yourselves.

5. When you see the bright light, think why it is that the wick gives such a bright flame, when the oil is some distance from it. Every one thinks that the fountain in the Park presents a beautiful appearance, when the jets of water rise sixty or seventy feet in the air. Did you ever ask why it rises thus to so great a height?

6. There is a cause for everything that takes place around us. Study to find out the cause. Who of you ever thought that we can obtain water by raising the hands of the pump, when the water itself is at the bottom of the well? Who ever thought why the pitcher is broken if water is frozen hard in it?

7. Two little boys were standing by a pond, and, as is frequently the case, amused themselves by throwing stones, bits of wood, and twigs of trees into it. Said John to his brother Charles, "I wonder why the stones sink into the water, when the pieces of wood float on the surface?" "I do not know," answered his brother, "I never thought about it." "Well," replied John, "I should really like to know, and I intend to ask father all about it when we return home."

8. As these little boys were proceeding on their way home, they perceived a kite, sailing high in the air. "Well," said John, who had large Causality, "I should be very much gratified if some one would tell me why that kite continues to ascend higher and higher in the air, when, if I should throw my pocket handkerchief into the air, that would fall to the ground." He put this question also in his store-house, to ask his father, who encouraged his children to ask questions, and had much patience in answering and explaining their inquiries. If little John should go on in this way till he becomes a man, he will have gained a great deal of information.

9. As I have said, everything has a cause, and if we know a cause, we can tell the effect of that cause. Think, inquire, and be not satisfied with simple facts, but search for the principle, and endeavour to understand it.

QUESTIONS.—State what the functions of the reasoning faculties are. State what assistance reason is to man, and why. Give the definition of Causality. Name its location. 1. What questions will perhaps arise? 2. State what Causality disposes a person to do. 3. In what way did Newton discover the attraction of gravitation? State what other discovery he made. What has resulted from thinking? 4. State what this organ enables men to do. Children. State what they should try to do. 5. Of what should they think when they see a light? Fountain in the Park? 6. What thing has a cause? Of what should they think when they see water frozen, &c.? 7, 8. Relate the anecdote of John and Charles. State where John put his question. Why? State what John will have when he becomes a man. 9. State what is a general truth. State what all should do.

**37. Comparison.** DEFINITION.—Ability to compare, discriminate, illustrate, explain; to trace resemblances, and to draw inferences. LOCATION.—Comparison is located above Eventuality, in the middle of the forehead, and between the two organs of Causality.

1. The organ of Individuality looks, notices, and observes objects and things. Form gains ideas of their shapes and outlines. Eventuality treasures them in the great store-house of the mind; yet we should be quite ignorant, or be unable to apply and make use of our knowledge, unless we had Causality to find out the cause, and the great use of Comparison is to compare one thing with another, and to show us the effect of the cause.

2. There is order in all the works of our Creator: there is a similarity, resemblance, and connection, between all his creatures; there is also a vast chain, extending from the lowest creature in God's creation to man, who is the highest. Each being is a link in that chain, and has the same quality in common with the one above and below it—some relation and some dependence—has its destined period of existence—its end to accomplish. Blot out one of these species, however useless and even malicious it may appear to us, and the order and system are broken—all the others are affected by it.

3. From the rude and savage barbarian, who lives with no elevated aims and ambition, to the individual surrounded and influenced by the polish and refinement of civilised life, there is a wide difference; yet each is a human being, fashioned in the image of his Maker, endowed with intellect and reason, and of the same great genus, man. There is also a great difference between animals of the same class; yet there is a sufficient resemblance to enable us to arrange and classify them.

4. That animals, birds, and insects, are often of great importance, will appear evident from the following fact: A law was once passed in the State of Vermont, that all the crows should be destroyed. So the people associated themselves, and devised every possible means to exterminate this species of birds. Causality asks, what have the crows done, to incur the ill-will of the people? Individuality has had its eyes wide open, and has seen that crows love corn, and that they waste and devour all they can. Comparison here puts in a word and says, Let me draw this conclusion: If crows eat corn, and we kill the crows the corn will be saved. So there was a constant firing of the guns, till all the crows were either killed or frightened out of that section of the country.

5. But the sequel proved that this reasoning was too much in haste, for the farmers, who had anticipated a plentiful harvest, found that their fine waving corn was filled with a small green worm, which was doing more injury than all that the crows had previously done.

6. What was now the best course to be pursued? I wish your advice and assistance, Comparison, said the farmers. Thinking more about the subject, she replied, the crows feed on these worms; they were created expressly for their benefit; therefore, spare the lives of the crows, and though they are maliciously disposed, yet they will devour these worms, and you will be able to save more corn. Other facts might be mentioned, but this is sufficient to illustrate the principle. You can use your Comparison, children, and trace out other facts; as, for instance, why so many small fish were created, and what would become of the larger species if they were destroyed, &c.

7. The organ of Comparison is very useful to us. Experience teaches that fire burns, therefore we avoid every fire that we see, because all resemble each other. We have often heard that great and universal law, which you must all remember, viz., that heat expands, and cold condenses; also another, that two bodies cannot occupy the same space at the same time. We will take these laws, and from them draw some general truths.

8. Individuality saw the water boil over the sides of the kettle. Causality says, let me find out the cause or reason for this. She reads that the particles of water, when heated, expand and rise; as there is not room for them, they must therefore, run over the sides of the kettle. Some liquids expand more than others; hence they are more liable to "boil over." As fast as the particles of water at the bottom of the vessel become heated, they rise to the surface, and the colder ones take their place; this is the reason that the water is in such constant motion during the process.

9. Causality says, that if a ray of light be reflected through a drop of water it will be divided into its seven colours; so whenever we see the sun shine immediately after we have had rain, or during a shower, we most certainly expect to see the rainbow in that part of the sky opposite to that in which the sun is situated.

10. When a small tube is placed in water, the sides attract the water and it rises in the tube. Comparison says, that the wick of a lamp is composed of many small tubes; therefore if it be placed in a lamp of oil, they will draw it up several inches above the surface of the oil; and as oil will burn, we always know that if we light the wick of a lamp, we shall have a bright flame. For the same reason, if a piece of sugar, salt, or sponge be placed so that only a part touches the water, the whole mass will become wet. And we also know that we must never leave one end of the towel in the basin of water, unless we wish the greater part of it to become wet; for each thread acts as a small tube to attract the water.

11. Again, all bodies that are lighter than water, float; those that are heavier, sink; therefore we conclude that it is perfectly safe to sail in deep water on steam-boats, because they are lighter than the surface of the water in which they sail. Hence, bits of wood and straw rise to the surface of the water, while stones, which are heavier, sink to the bottom.

12. Anything that is lighter than air, rises above it; hence men have constructed balloons, and filled them with very light gas, and have risen in them far into the atmosphere, or many miles from the surface of the earth. Several years since, three men started from London and travelled many hundred miles to Germany, in a balloon, and they felt perfectly safe and easy in making this experiment, and attempting this expedition, because their Causality was satisfied that they had a correct principle in constructing their conveyance, and their Comparison told them that if the cause or reason was a good one, the result would certainly follow.

13. When rooms have ventilators or places to permit the heated air to escape, they are generally made in the ceiling, or upper part of the room; because as soon as the air becomes heated, it expands, is lighter, and, of course, rises to the upper part.

14. If a candle should be placed at the upper part of an open door, the flame would blow outward, because the heated air which had arisen rushes out; but if it should be placed at the bottom, the flame would be blown into the room, the cold air from the next room rushing into the lower part of the room to supply the want of that which has risen. This motion of the air is wind; and this is the reason why, if we should sit in a room with the door open, our feet would feel the current of air sooner than other parts of our bodies.

15. If one end of a straw be put into a barrel of cider or molasses and the other be sucked by the mouth, the cider will rise through the straw. Causality asks, why this will take place; the reason is, that we draw the air from the straw, and the liquid in the barrel rises, to supply, or take the place of the air. A pump is constructed on the same principle. Comparison says, that if a liquid will rise through a small straw, water will rise through the tube of the pump. The air is drawn out of the log or barrel of the pump, and the water is then drawn up into the tube, and cannot escape, on account of a small valve at the bottom of the tube, and it is then pumped out.

16. John, of whom I spoke in the last section, would not be surprised to see the second or third kite rise in the air, because the first rose, and his Comparison tells him that the second was similar to the first. Neither would he be surprised to see the second stone sink into the water.

17. When it becomes dark, we light a lamp. Why? Simply because we have seen the darkness dispelled by that means. When it is cold, we sit by the fire; it would be folly for us to stand by an open window on a cold winter's day, instead of drawing around the fireside.

18. That "experience is the best teacher" is an old, but very true adage, and it is from this organ of Comparison that we gain experience, because we learn to judge of the qualities and materials of different things by those already known to us.

19. Children are obliged to acquire this experience gradually; and it is quite necessary for them to rely on the word and advice of persons older than themselves. This they are sometimes unwilling to do, and so suffer the consequences. Said a mother to a little girl, one day, "You will burn yourself, if you touch the stove." But the stove appeared dark, and the little girl had always seen the fire appear red, and had associated the idea of burning with this colour, and she therefore thought her mother had made a mistake.

20. She continued to play around it, while her mother was busily engaged in another part of the room, and very soon put her hand on the stove, and was burnt. This little girl's Comparison would say, henceforth, do not touch the black stove again. She has experience now for her guide; but we are very frequently compelled

to take the experience of others, if we wish to avoid injuries and dangers, and be successful in our enterprises.

21. We draw comparisons every day, which affect our whole lives and conduct, and form the basis of all our actions. This would be a very interesting subject to pursue farther, but I have told you sufficient to enable you to notice everything that is passing around you.

22. You must study out the causes of everything you can, remembering that there is no effect without a cause that is sufficient to produce that effect; for if you perform an act, it is because you have a portion of brain that impels you to do it, and this certain portion of brain enlarges and diminishes in proportion as it is exercised, following the general law of Nature, that the strength of anything is increased by use, and weakened by disuse.

There are two other faculties that have been recently discovered, which are called Human Nature and Suavity.

QUESTIONS.—Give the definition of Comparison. Name its location. 1. State why we need other organs besides Individuality, Form, and Eventuality. 2. State what order and connection there is between all creatures. 3. Is there anything useless? Compare civilised man and the barbarian. What is true of them both? 4. What is said of every bird, insect, &c.? In what way is this illustrated? 5. State what the sequel proved. Why? 6. State what Comparison said next. Of what advantage might Comparison be to children? 7. State what experience teaches. State what are two great laws. 8. Explain the boiling of water. State why the water is in motion. 9. Explain what produces the rainbow. 10. Explain why the wick burns in the lamp. How does this principle apply to sugar, salt, sponge, and towel? Why? 11. State what another great law is. What follows from this? 12. State what another law is. State what the result is. What experiment was made several years since? State why they felt safe. 13. State where ventilators are situated, and why? 14. What interesting experiments can be made with a candle? 15. With a straw? What is the reason? In what way does Comparison reason in regard to the pump? Explain the principle. 16. What would not surprise John? 17. State why we light a lamp when it is dark. Or sit by the fire when it is cold. 18. What is an old and true adage? How do we learn experience? Why? 19. What is necessary for children to do? 19, 20. Relate the case of the little girl who was unwilling to take the advice of her mother. State what experience she gained. State what we are often compelled to do. 21. State what we do every day. 22. State what you should study and remember. What causes every act? State what is a general law of Nature. What two faculties have been discovered lately?

**C. Human Nature.** DEFINITION.—Discernment of human character, and the motives of strangers at first sight. LOCATION.—Human Nature is located in the top of the forehead, between Benevolence and Comparison.

1. The design or object of this organ is to examine the motives of action, to trace out the secret purposes of persons in all which they do, and to read and understand the characters of those whom you meet. It is a fact, that most, if not all, the feelings and emotions of the mind, play on, or are exhibited in the countenance, unless the conscience be seared and hardened.

2. If a person be convicted of a crime, we almost always form an opinion of his innocence or guilt by looking at him, as if we were conscious that there was something that would leave traces on the expression, although we often judge incorrectly and are deceived. Those who have this organ largely developed, generally form correct impressions of individuals when they first see them, and are rarely deceived in their opinions respecting them. Policemen generally have large Human Nature, and they are very skilful in finding rogues, and are rarely deceived in their impressions of individuals.

3. This organ assists in tracing out the character, but it generally draws its conclusions from the appearance of the face, rather than the head.

QUESTIONS.—Give the definition of Human Nature. Name its location. 1. State what the object of this organ is. What is a fact? 2. What is often the case when we see a person who is convicted of crime. State what persons can do if this organ be large. How does it assist policemen? 3. What does this organ assist?



**D. Suavity, or Agreeableness.** DEFINITION.—The power of pleasing, of adapting one's self to company, and being agreeable in any company, or change of circumstances. LOCATION.—Suavity is situated on each side of the organ of Human Nature.

1. This organ gives a smooth, pleasing, and pliable manner. Some persons who have this organ small, have such a repulsive air and manner, that none seek their society, regard them with affection, or are pleased with what they say. Those who have it large, can say and do what they please, and obtain all the favours they wish, and are always welcomed wherever they go. Men and women who have this organ large, can always adapt themselves to the capacity of the young; they know how to enter into their feelings, engage in their sports and amusements, interest, entertain, and instruct them.

2. The physician needs this organ, to enliven the sick room with his anecdotes and pleasant conversation, and to make bitter medicines palatable. The teacher needs this organ, that he may sympathise with his scholars, and remember that he has been a pupil himself. The parent needs it, to render home cheerful, happy, and a desirable spot for the children. Children need it, to adapt themselves to those who are younger, to amuse the little infant, and to play with their younger brothers and sisters. This is certainly a most desirable organ, as it contributes not only to our own happiness, but to that of those around us.

3. I have described, children, in a short, plain, familiar, and practical manner, the location, definition, and application of all the organs of the brain, and, as far as possible, illustrated their use by familiar stories and examples, in order that you may be the better able to understand them. I have done this with a desire not only to amuse, but also to instruct you; to teach you some of the simple laws of your bodies and minds; to induce you to think. I have also endeavoured to elevate your thoughts, to lead you to see, that although it is necessary both to eat, and to supply the wants of the body, yet, by so doing, you only fulfil a part of the design of your creation. I have likewise endeavoured to show you that you have mental faculties, which must be supplied with mental food; the weaker exercised, that they may increase, and those that are excessive restrained, that they may diminish, so as to secure a well-balanced brain and mind.

QUESTIONS.—State what the definition of Suavity is. State its location. 1. State what the effect of this organ is. State what its advantages are when large. 2. State why the physician needs it. The parent. Children. State why this is a desirable organ. 3. State what has been described in the second volume of this book. State what the design of all this was. State what endeavours have been made to improve children.

## CHAPTER IX.

### HARMONY OF THE ORGANS.

1. As I have frequently remarked, one organ scarcely ever acts, or is exercised alone. On this account it is much more difficult to analyse character, and find out the real motive of action. We will suppose an instance, and will imagine the organs capable of speech; or we will personify them—that is, invest them with life.

2. Said Alimentiveness one day, I am hungry, I must get something to eat. What is that? cried out Acquisitiveness, if you intend to get something you will require my assistance, for getting is my business. But what do you wish? I would like some squirrels and deer, let us go into the woods and kill them. Stop one moment, spoke Destructiveness, in a gruff voice, it will be useless to go anywhere without me, there is any killing to be done, for I am the one to do that.

3. As Destructiveness roused himself from his couch, he disturbed his next neighbour, Combativeness. Ha! said the latter, you intend to go into the woods to shoot deer; let me accompany you, to inspire you with true courage. Well, said Secretiveness, looking out at the corner of his eye, if you think of catching anything, you must take me with you.

4. Then if you intend to shoot anything, said Cautiousness, you will find my presence necessary to assist you. Firmness, who was more bold and decided than either or all of them, spoke and said, you may all go together, but if you leave me at

home, you will accomplish nothing. But if I go as your pilot, I will ensure you success.

5. You can now see, children, that all these faculties must be in concert, beside many others that I could mention, to gratify only one thing, or organ, as Alimentiveness.

QUESTIONS.—1. How do all the organs act? What may we imagine the organs to be? 2. What was the conversation of Alimentiveness and Acquisitiveness? State who spoke next. 3. State whom he disturbed, and what the effect was. State what Secretiveness said. 4. State what Cautiousness said. 5. State what is said of all these faculties.

## CHAPTER X.

### TEMPERAMENTS.

1. As there are different qualities of brain, and differently shaped heads, so there is a great diversity in the bodies of different individuals; and, as I have previously told you, the state of the body affects the vigour and activity of the mind.

2. There are three conditions of the body which are called Temperaments. These depend on the constitution of different parts of the body.

3. **VITAL TEMPERAMENT.**—The Vital or Sanguine Temperament is predominant, when those organs which supply life or vitality are very large and active; as the heart, lungs, stomach, &c. It gives a fullness and roundness to the body; the cheeks are usually full, plump, and fleshy; the shoulders are broad, the chest is full, the pulse strong, the base of the face and brain large. Persons with this temperament have blue eyes, fair complexion, light hair, and a fresh and ruddy countenance.

4. They enjoy life, are very fond of the open air, are generally healthy, and have a strong and hardy constitution. They are not fond of hard work, or great mental labour; but like action and exercise, and are generally good-natured, kind, affectionate, and sympathising, and, with proper care, live to a good old age. When the Vital Temperament becomes diseased, it is called the Lymphatic; then, the person is sluggish, indolent, inactive, and the brain is feeble in action, the skin is soft, and muscles weak.

5. **MOTIVE TEMPERAMENT.**—Those persons in whom the Motive or Muscular Temperament predominates, have black hair, dark skin, hard bones, strong muscles, large joints, and a moderate degree of fullness and plumpness to the body. All that belong to the framework of the body, of which I have previously spoken, are fully developed. They have a squareness of body, and high cheek-bones.

6. This temperament, or condition of the body, gives hardness and endurance, a love of exercise and hard work. They have real energy of character, and generally accomplish what they undertake. Those who have soft bones and muscles may love to do some kinds of work, but they cannot endure much fatigue or excessive labour.

7. **MENTAL TEMPERAMENT.**—The Motive and Vital Temperaments depend much on the body, and their strength depends on the strength of the body; but the Nervous or Mental Temperament depends on the exercise of the brain and nerves. If these predominate, we say a person has the Mental or Nervous Temperament. The signs of this organisation are light, fine hair, thin, clear, and delicate skin, a small frame, a small chest, sparkling eyes, and quickness of motion. The brain and nervous system are very active, and lead the person to think, read, study, and acquire knowledge.

8. When all the temperaments are happily blended, they give the possessor a great degree of physical and mental power, great activity, great power of thought and feeling, and dispose a person to engage in intellectual pursuits, or in some active business, which requires mental and physical strength. If one of these be wanting, there will be a want of balance to the mind, as for example,—

9. Suppose a person has a very large and active Mental Temperament, with small Vital or Motive; he might be very intellectual and fond of literary pursuits, but would not have strength of body to carry out his plans. This is the reason why those persons who are very smart, bright, and precocious, and mature early, die young; because all their vitality is expended through their brain and nervous system.

10. If a person have large Vital and Motive Temperaments, with very small Mental, he will have a great many animal wants and desires; his thoughts will be confined mostly to his body, and he will care very little for the cultivation of his mind. He will not spend his time in hard study and thought, but will be most anxious to know "what he shall eat, and wherewithal he shall be clothed."

11. Children, I wish you to observe every one whom you see, and try whether you can tell what their temperaments are. You can understand me when I tell you that there is a difference between a large, fleshy man, and one who is tall, slim, and pale, as well as you can understand that there is a difference between a large and small apple, or between a pear, peach, and orange. This difference in individuals is difference in their Temperaments. I do not suppose or think that in judging of people's Temperaments, you will always decide correctly; for older persons, who have had much experience, fail frequently. It will teach you, however, to learn and observe.

12. But the Temperaments alone, are not sufficient for the full development of the organ. They might be well balanced; yet, if we had no external senses, they would be useless, as much as a piece of money is useless when it lies in a heap of rubbish, or a beautiful diamond, when imbedded in the rock. I will next explain to you briefly, what I mean by the external senses.

QUESTIONS.—1. In what are there great differences? How does the body affect the mind? 2. How many Temperaments are there? On what do they depend? 3. When is the Vital Temperament predominate? What is the appearance, size, &c., of the individual? 4. What constitutes their enjoyment, and what is their disposition? What is said of the diseased Vital Temperaments? 5. What are the peculiarities of the Motive Temperament? 6. What does it give? Is the same true of those who have soft bones and muscles? 7. How does the Mental Temperament differ from the others? What are its signs or peculiarities? 8. What are the advantages of a balance? 9. What often follows from this? 10. What will result from the union of large Vital and Motive, with small Mental? 11. What should children do? Why will children fail in this? State what good it will do. 12. State what is necessary beside the Temperaments. Why?

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## CHAPTER XI.

### THE EXTERNAL SENSES.

There are five senses, viz., seeing, hearing, tasting, smelling, and feeling.

1. SIGHT.—The eye is the organ of sight, and is a perfect and beautiful apparatus. I have not time to tell all you about its construction, or of the many coats by which it is surrounded. That it is very delicate, and of the greatest importance, is evident from the manner in which it is protected. We see that it is situated in a socket of hard bone, and has a lid that shuts down over it when we sleep, to prevent the particles of dust from getting into it. The eye-lashes serve the same purpose when we are awake.

2. A great number of nerves lead to the eye; but only one, which is called the optic nerve, assists in giving light. The eyes of some animals are so situated that they can turn them only in one direction; but there are numerous muscles in the human eye—one to turn it upward, another to draw it downward, another to enable us to turn the eyes around, or to the side. Hence we perceive what advantages we have over many animals.

3. The tears are secreted by the lachrymal gland, just behind the eye, and serve to moisten it. Sometimes when persons go out from a lighted room in the evening, it will at first appear to be very dark, but after they have been out a short time it appears to become lighter. I will tell you the reason of this—as there can be no effect without its cause. I will first tell you, however, that that part which makes one person have blue eyes, another black, &c., is called the iris; there is an opening in this iris called the pupil, through which all rays of light pass to the back part of the eye, called the retina, where a little image is formed of every object we see. This opening in the iris has the power of contracting or shutting, and expanding or opening.

4. When we are in a room where there is much light, the opening is contracted, and if we go out suddenly into a dark room, the iris requires a little time to expand sufficiently to enable it to receive all the rays of light. If we go from a dark room into a light one, our eyes will experience an unpleasant sensation, because too many rays of light pass through the iris, which always expands in the dark.

5. The organ of sight contributes much to our happiness, and is of as much assistance to us as the windows are in a house.

6. HEARING.—The ear is the organ of hearing. It has many divisions, which I am afraid you would not remember if I should tell you them. The nerve which conveys impressions to the brain is called the auditory nerve. The ear has no opening into the brain, so that insects which sometimes find their way into the ear, could not—as many suppose—crawl into the head, although they frequently produce considerable pain.

7. By sound is meant vibrations of the air, which reach the ear. When persons speak to us, they produce a change or motion in the air, and this change is called the vibration; the air which is moved, or the vibration, falls on the membrane of the ear, thence it is conveyed rapidly to the brain, and this we call sound.

8. That air is necessary for the passage of sound, has been proved by removing all the air from a glass dish by means of the air pump, and then by putting a bell into the dish and trying to ring it. It produces no sound, or there is none transmitted to our ears.

9. TASTE.—The sense of taste lies in the mucous covering of the lips, tongue, cheeks, and throat. There are little substances which are called papillæ, which assist us very much, and contribute greatly to our pleasure when we eat.

10. This organ is more acute and active in children, who gradually lose their strong relish for food as they become older. It is often a complaint with the aged, that they have not good appetites. The taste of children is natural, and, if not perverted, would never seek stimulants of any kind.

11. Hunger and thirst are desires or sensations in the nerves of the stomach and throat, for the purpose of warning us that we must take nourishment.

12. SMELL.—The sense of smell is situated in the mucous membrane of the nose. Impressions made on it are conveyed by the olfactory nerve to the brain. By means of it, animals which roam through the fields and meadows can detect the difference between poisonous and noxious weeds, and plants pleasant and agreeable to the taste.

13. Animals have this sense quite largely developed. Some dogs are able to pursue game which is out of sight. They can detect the path of their master, and will often follow his track for miles.

14. The sense of smell, although inferior to the others, affords us much pleasure and enjoyment, which we should not have without it.

15. TOUCH.—The sense of feeling or touch is in the skin and mucous membranes. The difference between touch and feeling, is, that touch is limited to particular parts, mostly in the hand, while feeling extends over the body. If we puncture any part of it with a pin, we shall perceive a sensation in the nerve of that part. By means of this sense, we are aware of the temperature of bodies around us with regard to their heat or cold.

16. I have given you a short sketch of the different senses, and you will perceive that they are the only means by which we gain a knowledge of the external world; and that without them we could not develop our mind to others. In conclusion, remember the great object of all you learn is to make you good and happy.

STRIVE TO BE GOOD—GREAT:

“Great, not like Cesar, stained with blood,  
But only great as you are good.”

QUESTIONS.—Name the subject of chapter eleventh. State what the different senses are. 1. What is the eye? 2. What nerves assist sight? 3. For what are the ears? 4. Explain why it is unpleasant for us to go from a dark room to a lighted one, and the opposite. 5. What is said of the organ of sight? 6. State what the organ of hearing is. 7. State what sound is. 8. Why is air necessary to sound? State what the speed of sound is. 9. State where the sense of taste is situated. 10. In whom is this most active? 11. State what hunger and thirst are. 12. State where the sense of smell is situated. 13. Have animals this sense largely developed? 14. Where is the sense of touch? 15. State the uses and advantages to the external senses. State what all must strive to be.

# TEMPERANCE,

FOUNDED ON

## PHRENOLOGY AND PHYSIOLOGY.

OR THE LAWS OF LIFE, AND THE PRINCIPLES OF THE HUMAN CONSTITUTION,  
AS DEVELOPED BY THE SCIENCES OF PHRENOLOGY AND PHYSIOLOGY,  
APPLIED TO TOTAL ABSTINENCE FROM ALL ALCOHOLIC AND  
INTOXICATING DRINKS.

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BY O. S. FOWLER, PRACTICAL PHRENOLOGIST.

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In presenting this subject, I shall first briefly explain some of those laws which govern the influences of the body upon the mind, and of the mind upon the body, showing what conditions of either induce and cause those of the other; secondly, point out the consequences or penalties attached to the violation of these laws; and, thirdly, show the effects of intoxicating drinks, of every kind and degree, upon the physical and thereby upon the mental economy, violating these laws and thus inducing their penalties, first by powerfully stimulating the body, and thereby the merely animal nature of man, and also weakening his moral and intellectual powers; and, secondly, by shortening human life.

Independently of its application to temperance, its physiological and phrenological facts and principles will be found eminently interesting and valuable to all classes.

### PROPOSITION I.

*There exist reciprocal relations between the conditions of the body and the states of the mind, each influencing and being influenced by that of the other.*

For ought we know, man might have been created a purely spiritual entity, without a body, but the great ends of our existence are evidently better secured by our natures being compounded. Hence we are composed of mind and body so closely united by the reciprocal action of certain physiological and phrenological laws, that the conditions of each have a perfectly reciprocal and powerful influence upon the states of the other, each throwing the other into its corresponding state. Hence a clear, cold morning, a heavy, muggy atmosphere, oppressive heat, &c., very differently affect the mind by throwing the body into different states. A high fever increases the mental manifestations and augments the feelings, whilst hunger, fatigue, and every enfeebled state of the body proportionably weaken them. Dyspepsia induces irritability, peevishness, gloom, and a most wretched state of mind and feeling, totally reversing their character, and changing the friend into the misanthrope, the blessings of hope into the bitterness of despair, and the happy man into a most miserable being. Physical inaction induces mental sluggishness, whilst a due degree of exercise or labour clears the mental horizon of those clouds with which confinement or slothfulness envelopes it, producing a delightful flow of thought and feeling. Food and sleep, or the

want of them, powerfully and very differently affect the states of the intellect and feelings, whilst a sufficient dose of arsenic or laudanum extinguishes both for this world. Sickness enfeebles and health strengthens the mind: and most of our constantly occurring changes of feeling and mental action are attributable to the causes involved in this proposition. Some of our ablest speakers and writers of all classes have learned by experience to practice abstinence preparatory to their most powerful efforts. Certain kinds of food excite some of the animal passions, whilst others increase our desire and ability to think and study.\* The inspired Paul embodies this doctrine in the text, 'I beseech you, therefore, brethren, by the mercies of God, that ye present your bodies a living sacrifice, holy, acceptable unto God,' implying that the proper condition of the body induces a holy state of mind, whilst an inflamed or impure body kindles the animal passions. As soon may we expect the sun to stand still, or the water to run upwards, as that the pious Christian will 'be clothed with the spirit,' or be borne upwards upon the wings of devotion, or the profound thinker or the learned student of nature be able to bring all his mental energies into full and efficient action, when he has overloaded his digestive apparatus, or induced a severe cold or fever, or in any other way clogged or disordered his bodily functions. 'A sound mind in a sound body,' not only beautifully and forcibly expresses the sentiment of this proposition, but also embodies the experience of past ages and all nations. Both religion and talent depend more upon the conditions of the body, and especially of the digestive apparatus, upon what we eat and drink, upon our physical habits, than most good people are aware of. Hence, fasting promotes piety, whilst 'fulness of bread' kindles sinful desires. Insanity, which consists in the derangement of the *mind*, is caused solely by an inflammation of the brain.

In like manner also given states of mind throw the body into their corresponding states. Thus bad news diminishes the appetite and impairs digestion, while good news promotes both. Encouraging the sick generally improves their health, whilst the loss of property, of friends, or of children, often induces or aggravates disease. The derangement of the mind often doubles and quadruples the physical strength. In short, as well may one question the evidence of his senses as controvert this proposition, that both mind and body each powerfully and reciprocally affect the other. Every member of the human family daily and constantly feels this truth.

## PROPOSITION II.

These relations between body and mind are governed by certain invariable laws of cause and effect, given conditions of the one inducing and causing the corresponding states of the other. The principle that whenever a part of a given class of phenomena are governed by laws of cause and effect, every phenomenon of that class is governed by these same laws, is a universal principle of nature, and may be relied upon in every conceivable application. Are a part of the phenomena of vision governed by the laws of optics?—every phenomenon of vision, performed by man or brute since the creation of Adam, has been governed by the same laws. Are a few bodily motions caused by muscular contraction?—*all* are caused by the same contraction. Should millions of daggers be driven into the hearts of so many human beings, they would in every instance separate mind and body. Let any or every member of the human family take opium or its compounds, and one

\* Should this lecture be well received, the author intends to follow it with an essay on the different effects of various kinds of food and drinks upon the mind and feelings, as applicable both to intellectual men and also equally to the religious, but as such a work, to be at all valuable, must be founded, not on speculative reasoning, but solely on the compilation of a great number and variety of facts and the experience of mankind, the author solicits individuals to observe and communicate to him the results of such experiments.

and all will experience its effects. These illustrations will apply equally to every law of nature. That some of these relations existing between mind and body are governed by laws of cause and effect, is self-evident. Therefore all are equally so, and every condition of either throws the other into its corresponding state. If in any one instance a given condition of either body or mind causes or is caused by that of the other, then every state of either causes or is caused by the corresponding conditions of the other. Either there exists no relations of cause and effect between the two, or else it is all cause and effect—all antecedent and consequent, for nature always makes thorough work or does nothing.

Hence, we can at any time throw either mind or body into any desired state by putting the other into its corresponding one, and we can no more put either into any given state without thereby throwing the other into its corresponding one, than we can arrest the operation of any other law of nature. And since the brain is the instrument of thought and feeling, its conditions influence the mind more powerfully than those of all the other portions of the body united. Hence to excite either faculty or organ is to excite the other; and as the stomach and brain are intimately related, its state also powerfully influences that of the mind.

### PROPOSITION III.

*Every law of Nature has a sure reward attached to its observance, and a fearful penalty affixed to its violation.*

Had there been no fixed laws of cause and effect, things would have occurred without any regularity or certainty. Stones would have then been liable to have produced grain; wheat, animals; the sun, darkness; and fire sometimes one thing and then another. Man could have relied upon nothing—could have accomplished nothing. But this institution of law has reduced chaos to a most beautiful system of uniformity and certainty. Yet without a penalty attached to violated laws, and pleasure to their obedience, they would have been useless, because powerless. Hence a benevolent God has inseparably affixed happiness to their obedience, and misery to their violation. Still further. He has proportioned the penalties of disobedience and the pleasures of obedience to the importance of the several laws. As life is the greatest of all blessings, and as the violation of the civil law which protects it is visited with the heaviest of all penalties, and as the laws which protect property or character are less important, and their violation punished with less severity, so those laws which obtain between mind and body, being of the very highest order of laws, their observance is productive of the purest, most exalted, and most condensed of all enjoyments, whilst their violation plunges the disobedient into the deepest misery, because the mind is the one main fountain from which springs most of our pains and pleasures. And what is still more, the enjoyment or violation follows in the direct line of the obedience or transgression. Each law has its own penalty and enjoyment attached to itself, being its own executioner. To obey a law is to enjoy the blessings secured by that law; to transgress is to suffer its penalties. There can be no escape, no evasion of either throughout God's vast domains. These results are inevitable and invariable. Infinite Benevolence has put obedience with its blessings into our right hand, and disobedience with its curses in our left, and endowed us with power to choose or refuse either. All our pleasures flow from law obeyed, all our pains from law violated. And as the observance or violation of these laws depends mostly upon each individual for himself, his happiness or misery is mostly in his own keeping—the reward or penalty of his own actions.

INFERENCE.—A knowledge of those laws which govern the influences of body upon mind and mind upon body, is as much more important than is a knowledge of the laws of mechanics or natural philosophy, of chemistry or

navigation, of astronomy, or of any other thing appertaining to matter, as mind is superior to matter. And yet man's utter ignorance in relation to this subject, is as deplorable as it is almost total. Every thing is studied and this neglected; yet this should be fully understood, even at the sacrifice of all other knowledge.

These three propositions constitute our base lines, our starting points, our corner stones. Who will 'gainsay or resist them?' They stand unshaken and unmoved, being based upon the immutable, invariable laws of nature.

#### PROPOSITION IV.

*Balance of power constitutes perfection, and with that obedience to law which secures enjoyment; whilst both the excessive and deficient action of any part constitutes imperfection, or that violation of law which induces pain.*

First, in reference to the several parts of the body. As an organised being, man is composed of three principal classes of organs. 1. The vital temperament or nutritive apparatus, namely, the heart, lungs, blood, digestive apparatus, &c., embracing the entire system of inside organs, which manufacture vitality, furnish animal vigour, and resupply the brain, nerves and muscles with that vital energy which their very action compels them to expend. 2. The motive apparatus, embracing the bones, muscles, sinews, tendons, &c., which constitute the framework of the system, give it its size and shape, and produce bodily motion, physical strength, &c. 3. The brain and nervous system, the exercise of which produces thought feeling, sensation, talents, memory, &c.\* Nearly every form of physical pain and disease is caused mainly by the deficient or excessive action of one or more of these temperaments. If carried far, they hasten death, but when they are all well developed and equally balanced, there will be an abundant supply of vital energy to keep the animal economy in motion, a proportionate supply of physical strength, love of exercise, and ability to labour, together with lively sensibilities, intensity of feeling, and power of thought, the result of which will be good health, long life, physical and mental enjoyment in the highest degree of which our nature is susceptible, and a high order of natural talent. But on the principle that an overloaded stomach withdraws the strength from the brain and muscles, the predominance or deficiency of either part tends to increase the excess or defect, which augments the evil, being the reverse of what should take place. This exhausts the weaker temperaments which go by the board, carrying health, happiness, and life along with them.

The best condition of body, the one most favourable to true greatness and a general genius, to balance and consistency of character, and to perfection in everything, is that in which each temperament is strongly marked, and all about equally balanced. Is there too much of the motive? there is power, yet but little action, so that the talents lie dormant. Does the vital-motive greatly predominate over the mental? though there may be physical power and enjoyment, there will be too little mental, too much grossness, coarseness, and obtuseness of feeling, with too little of the intellectual and too much of the animal. But where the mental greatly preponderates, there will be too much mind for the body, too great sensitiveness, too much intensity of feeling, and that too exquisite, too much sentimentalism and refinement, with a tendency to precocity, which induces an early death.

These temperaments and their predominance may be amply compared to the several parts of a steamboat. The vital is the wood, water, fire, steam and engine, which produce the propelling power; the motive is the hulk; the

\* For a full description of these temperaments with their accompanying mental qualities, the reader is referred to the chapter on 'Physiology, or the Doctrine of the Temperaments,' in 'Fowler's Practical Phrenology,' pp. 10 to 28.



mental the freight and passengers. When the vital predominates, it manufactures more steam, more vital energy, more impulse, more animality than the brain, nerves, and muscles can work off, which produces an overflowing of feeling and passion, a restlessness, a high pressure, and a liability to explode. The lion has a prodigious chest, and an amount of animal power almost beyond conception, with but a small brain. Hence with scarcely a hundredth part of his strength, but with well developed brain and uerves, man can accomplish a thousandfold more. Does the osseous and muscular system greatly predominate? there is too much hulk; the person will move slowly and feel but little, enjoy and suffer only proportionally little, and if the mental is also weak, be obtuse in intellect, a stranger to refinement and intellectual enjoyment, and having but few passengers, the boat of life will be too light freighted to be worth running, or to secure the great ends of existence, namely, intellectual and moral enjoyment. But where the mental greatly predominate, the vessel is overladen, the energies of the system are drawn from the digestive apparatus and muscles, and concentrated in the brain, which thus consumes the vital powers faster than the vital organs can manufacture the re-supply. This overdraught, whilst it greatly augments the talents, also causes premature deaths. This principle, whilst it explains the cause of the premature death of precocious children, cautions excessive parental fondness not to press them forward in study, lest by increasing the predominance of the brain, they thus hurry them into an early grave. It is also illustrated by the illhealth, the dyspepsia, the nervousness, headache, ennui, &c., of our literary and sedentary classes, and by the intellectual obtuseness of those who neglect mental culture. Consumptive families are usually slim-built and narrow chested, which indicate weak vital organs and very active brains. This disproportion of parts hastens their deaths. Apoplexy, gout, &c., are caused by the opposite extreme, and if physicians would but restore the lost balance between the temperaments, they would save many patients whom they now lose. If mankind in general would only keep these temperaments equally balanced—if, when they are becoming nervous, they would labour more and think and feel less—if, when worn down by labour, they would rest and read—if, when they have taken more food than exercise, they would restore the balance between the two—if, like Bonaparte, they would take the extreme opposite to that which caused their disorder, which is only applying the principle we are presenting—a large portion of those who now die young would live to be old.

The inference is plain and powerful, that whatever unduly excites or develops either of these classes of organs, proportionably induces disease and hastens death.

Secondly.—This same principle of balance, when applied to the phrenological faculties, constitutes virtue, and their disproportionate action predisposes to vice. The phrenological definition of virtue is this, the proper and harmonious exercise of all the faculties upou their legitimate objects, under the control of the moral sentiments. On the other hand, vice consists in the excessive or perverted action of any of the faculties, and especially of the animal propensities thus directed. If the animal propensities predominate in action, they demoralise and debase the higher, nobler gifts of God, and whilst in one sense they assimilate the 'lord of creation' to the 'beasts that perish,' in another, they render him far worse and more miserable, because of his greater susceptibility of enjoyment and suffering. Are they deficient? their weakness is also unfavourable to virtue. If Amativeness predominates, or acts either without the purifying influence of the higher faculties, or in opposition to their dictates, it leads to licentiousness; but under their control, it becomes connubial love, than which no emotion of our nature is more pure or virtuous. Combativeness, acting alone, is mere physical prowess, or the real 'knockdown-and-drag-out' disposition, which is highly vicious, incurring the penalty attached to the violation of this mental law; while this faculty, acting

in obedience to Conscientiousness and Benevolence, becomes moral courage, defence of rights, and of the oppressed, &c., a highly virtuous emotion. The due exercise of Alimentiveness, by strengthening the body, and thereby the moral and intellectual qualities, is virtuous, bringing with it its own reward; whilst its excessive indulgence, by overloading the stomach, and thus clouding the intellect and blunting the moral sensibilities, becomes vice. Average Secretiveness, governed by Conscientiousness, employs policy in a good cause; whilst its excessive action, unchecked by the higher faculties, leads to lying and duplicity. Acquisitiveness, or love of property, duly exercised, promotes industry and sobriety, gathers around us the comforts of life, and, aided by Conscientiousness, produces even-handed justice, whilst its predominance leads to cheating, extortion, &c. Excessive Cautiousness produces irresolution, procrastination, and timidity, and is unfavourable both to virtue and efficiency; but duly balanced, it gives that discretion which is the better part of valour. Does Self-Esteem predominate, unchecked by Conscientiousness or intellect? it inflates one almost to bursting with pride, self-sufficiency, haughtiness and egotism; whereas its true development, controlled by the moral and intellectual faculties, imparts dignity, and that self-respect which elevates one above meanness and trifling, and also leads him fully to appreciate and fulfil the great ends of his being. Is Firmness very large and uncontrolled? it renders one doggedly obstinate, impervious to conviction, and blindly tenacious of his opinions and purposes, whether right or wrong, merely because he wills it to be so; is this organ small? he is too fickle to accomplish anything, 'being blown about by every wind of doctrine,' every new notion; but fairly developed and balanced, no element of character is more valuable. Predominant Ideality renders one fastidious and too delicate and refined, whilst its deficiency leads to coarseness and vulgarity; but its fair development blends the serviceable with the perfect, combining utility with beauty.

Do one's perceptive powers, which give the various kinds of memory and the ability to collect and retain knowledge, greatly predominate over his reflectives? though he may be very apt as a scholar and talker, he will be superficial, lack thought, judgment and contrivance, and be incapable of ascending from facts to first principles. And, on the other hand, are the perceptives small but reflectives predominant? he will have a wretched memory, be unable to command his knowledge, or bring his talents to bear upon practical matters; be given to merely speculative, scholastic, abstract, therefore-and-wherefore metaphysical theorising, which is valueless, and though he may know how to reason, his knowledge of facts will be too limited to furnish data sufficient to form correct inductions. But where both are equally balanced, the former collects abundant materials which the latter work up into correct arguments and sound conclusions. Both equally developed give a general talent, constitute a well-balanced and truly philosophical mind, give the true Baconian, inductive method of studying nature by ascending from facts up to first principles, the only possible means of arriving at the truth. This development is not only perfectly adapted to the laws of nature, and harmonises with the constitution of the human mind, but also gives what is called sound common sense, correct judgment, and enlarged views of subjects, whilst its absence causes the intellectual lameness, the warped views and the fallacious and diversified opinions existing among mankind. This principle applies generally to all the faculties.

Again, the want of action in any of the organs is unfavourable to virtue. Thus, is Amativeness wanting? connubial love is absent, and this incentive to virtue dead. Is Combativeness small, the husband cannot defend his family, nor the truth, nor any good cause, but quails before the approach of every obstacle. Is Alimentiveness deficient, our higher mental powers would become enfeebled, and if Acquisitiveness is small, as is often the case with the sons of rich parents, prodigality ensues, thus opening the door to many vices

which larger Acquisitiveness would shut out. Inactive Conscientiousness, or Benevolence, or Veneration, or reasoning power, each leaves a great mental hiatus, their exercise being indispensable to virtue.

We are thus prepared for the important inference, that whatever tends to weaken or unduly excite either of these classes of faculties, especially the animal propensities, is thereby calculated to unhinge and derange the mind, thus causing vice and misery.

#### PROPOSITION V.

*Alcohol powerfully stimulates and irritates the brain and nervous system.*

Apply it to an open wound, or bring it in contact with an exposed nerve, and it burns like fire. Let it be applied ten million times to as many fresh wounds or exposed nerves, and every application will bring painful evidence of the truth of this proposition. Let those who doubt it, try the experiment. It burns the mouth, and hence the practice of taking water with grog and water after grog, to quench the fire it always kindles. There is something in the very nature of alcohol and the nerves by which the former invariably irritates the latter. No law of nature is more clear or universal than that by which alcohol excites the brain and nerves. As soon may one deny the effects of gravity, or question the phenomena of optics or chemistry, as attempt to controvert this proposition. As soon can he 'carry coals of fire in his bosom and not be burned,' as bring alcohol in contact with the brain or nerves without powerfully exciting them. Indeed, it is taken mostly on account of its stimulating qualities.

#### PROPOSITION VI.

*The exciting qualities of alcohol are retained after it is taken into the system.*

This is abundantly evinced by the stimulus or increased action which it imparts to the muscles, and indeed to the whole animal economy. 2. It passes unchanged into the blood, having the same irritating effect in the system that it has when applied externally. It has been extracted from the blood by chemical analysis, and found in the watery secretion of the brain of drunkards after death, and that in such abundance as to send forth the alcoholic flame and smell. E. C. Delavan put the question, 'Is alcohol digestible?' to forty of our most eminent physicians, and every reply contained a full, unequivocal negative. Cases of spontaneous combustion, in which the bodies of toppers actually ignite and burn to death, incontestably establish this point.

Again: this blood, thus surcharged with this powerful stimulant, this deadly poison, is brought into direct contact with every part and particle of the entire system, with every shred of every nerve, and with every fibre of every muscle, the ramifications of its vessels being inconceivably minute and numerous. 'The blood thereof' is indeed 'the life thereof.' As is the state of the blood, so is that of the system in general, and of the brain and mind in particular. The same is substantially true of the stomach. Its condition powerfully affects that of the great sympathetic nerve, which in its turn influences the entire system, especially the *base* of the brain.

#### PROPOSITION VII.

*About one-seventh part of the blood is sent to the head, which is several hundred per cent more in proportion to its size than is carried to any other portion of the system.*

This is the universal testimony of all physiologists. The reason is obvious. By a law of our nature, every action of every nerve and muscle, every exercise of brain and mind causes a proportionate expenditure of vital energy. The

blood being the great medium for re-supplying this exhausted vital energy, is most abundant where the greatest re-supply is demanded. Hence, since the brain is the organ of the mind, since the irritating effect of alcohol is most powerful, almost as much so as fire or arsenic, since its exciting property is retained after it is taken into the blood, and since so much greater a proportion of blood is sent to the head than to any other part of the system, the effects of alcohol upon the mind of man must be powerful and tremendous, either for good or for evil.

Still farther : however extraordinary man is as a merely physical being, it is his intellectual and moral qualities which constitute the chief ends of existence. He was never made merely to eat and sleep, to breathe and labour and die: He was created *mainly* to *think*, and *feel*, to do good, and to study God's works. It is not his coat, nor yet his body, but it his intellectual and moral nature which constitutes the manhood of man. All else is not worth counting. *This is the man.* This constitutes his identity and personality. Could you cut from him limb after limb, and one portion of his body after another, until the whole were cut away, he would be the same man still, provided his mind were left the same ; but let insanity derange that mind, or let death separate it from the body, and he is not the same person. We feel that his lifeless body is not himself. It is our minds, our moral capabilities, our powers of thought and feeling, which constitutes our very essence and substance, our personality and identity, flesh and blood being our dwelling only. Hence the exercise of mind is more fatiguing, more painful, more pleasurable than that of the body. '*Voluptus Animi major est quam corporis.*' The pleasures of the mind are greater than the pleasures of the body.

If, therefore, the effect of alcohol is good at all, it must be very good, if bad, bad in the very highest possible degree, and bad upon the very essence and soul, and the centre of man, because it storms the very citadel of our nature.

In two ways, therefore, first, by the great amount of blood sent to the head, and, secondly, by its effects upon the nervous system in general, and the brain in particular ; and especially upon the internal nervous tract, do alcoholic liquors irritate and stimulate the brain, and thereby the mental faculties, for, as already shown, to excite either is to excite the other.

#### PROPOSITION VIII.

*This extraordinary condensation of stimulus is CONCENTRATED upon the BASE of the brain, powerfully stimulating the merely ANIMAL propensities, whilst it weakens the moral and intellectual faculties.*

According to Phrenology, the organs of the animal propensities are located in the base of the brain, close to the body which they serve, and whose wants they supply, so that the intercommunication between the two is greatly facilitated by their juxtaposition, the conditions of each exerting a reciprocal influence upon the states of the other. But the moral organs, the higher, religious, and God-like sentiments, have their location in the upper portion of the head, as far removed as possible from those influences which disturb the body (a wise provision this,) whilst intellect is located in the forehead.

Again ; the organs of the perceptive faculties, which acquire and retain knowledge, give the various kinds of memory, and bring man in contact with matter and its physical properties, are located around the eye, close to the body again, whilst the organs of reason, the noblest gift of God to man, occupy the highest portion of the forehead, being also far removed from the body.

Mark well the inference. Not only, as already shown, is there several hundred per cent. more of the exhilaration produced by alcohol carried to the head than to any other portion of the system, but this stimulus is

concentrated upon the base of the brain, or upon the organs of the animal propensities, thereby goading to the highest degree of inflamed and morbid action, the merely animal nature of man, but leaving his moral and reasoning powers far in the rear.

Not only, therefore, is this effect produced by the juxtaposition of the animal organs and body, but so intimate are the relations of each to the other, that to excite either is to excite the other—to inflame or stimulate the *body* is to stimulate those mental faculties which serve the body, namely the animal passions.

Again, by a law of our nature, to over-tax any organ draws the strength from the other portions, and concentrates it upon the labouring part. Thus an over-loaded stomach draws the strength from the muscles, from the brain, from every other part, to remove the load, rendering us drowsy, dull and averse to both mental and physical action. Close mental application, powerful thinking and intense emotion, impair the appetite, retard digestion, and induce dyspepsia, because they draw off the energies of the system to the head. Now, if this well-established physiological principle applies to the several portions of the brain, this prodigious excitement of the animal passions actually weakens the intellectual and moral organs, and that at the very time when, in order to keep pace with the over-stimulated animal propensities, thus lashed up to the highest pitch of action, they require to be clothed with almost unearthly vigour.

In case alcoholic liquors excite each of the faculties alike, why do they not render the pious man a hundred times more pious, and the literary man ten times more literary? Why not deepen and widen the channels of thought? Why not render ordinary men Websters and Franklins, Broughams and Herschels, and these intellectual giants actual Gabriels in intellect? Or why should they not excite the moral faculties instead of the animal feelings? Why not make an infidel an Enoch; a deist, a Wesley; or a sceptic a Payson? Why are not all spirit drinkers patterns of piety and good morals, and also stars in the firmament of intellectual greatness? Let this proposition answer. Not only does it not augment the talents of talented men, nor the literature of the literary, nor make the profane pious, but it actually reverses this state of things. It prostrates talent, beclouds the intellect, darkens counsel, renders the ideas muddy, and, before its approach, literary attainments, intellectual greatness, and moral purity, one and all, vanish like dew before the rising sun. It sometimes, though very rarely, increases a certain kind of eloquence, as we shall see hereafter, whilst it is universally a sworn enemy to good morals, and to all literary and intellectual attainments.

Again, the fact is no less lamentable than true that nineteen-twentieths, if not ninety-nine hundredths, of the time, desires, and pleasures, the pursuits, anxieties, &c., of mankind, are consumed upon the gratification of his animal nature—in scrambling after property, in seeking what he shall eat, and drink, and wear, and live in, and show off with, in gratifying his love of power or his grasping ambition, in politics, in friendship and family cares, in combating and extending, in backbiting and licentiousness. A small portion is expended upon religion, but even his religion is warped by his animal feelings. This assertion is sweeping, but too true, innumerable illustrations of which might be given. According to Phrenology, by far the largest part of the brain is occupied by the animal and selfish organs. Does not every reader find the subjugation of his animal passions extremely difficult? Now, if this is the fact without the use of alcohol, how much more is its use calculated to inflame this already predominant portion of his nature, and also to retard his advancement in virtue, intelligence and religion?

Thus far, there is but a single vulnerable point, but one lame proposition, but one possible evasion of these inferences, namely, 'We do not believe in your Phrenology.' I shall not here enter upon even a brief defence of its

truth, nor exhibit any of its facts, but refer the reader to works on the science. Still this last proposition, which forms the key-stone of this essay, its one leading thought, namely, that the state of the body is as the state of the animal organs, that, therefore, whatever irritates or stimulates the former, thereby proportionably inflames the latter, is a general fact, a constitutional law of our nature so palpable and so universal, that 'the wayfaring man, though a fool,' cannot but see and admit its truth. The following classes of well-known facts are only a few of the tens of thousands which might be adduced to prove and illustrate it.

A cold or a slight fever does not increase Benevolence or Conscientiousness, but actually weakens them, whilst it greatly augments the combative and destructive and selfish feelings. Let your child be a little unwell, that is, let his body be in a feverish and irritated state, and he will be peevish, cross and petulant, and fret at every little thing, and that without cause; Causality and Conscientiousness being inactive. Nothing pleases, but everything irritates him. The same is true of dyspepsia or indigestion, and of persons generally in poor health. They find fault with everything, are ungrateful, and unreasonable in their anger, because of the irritated state of their animal, and the weakened state of their moral and intellectual organs. Why do not diseases increase our kindness, our devotion, our conscience, our reasoning powers, &c. Because bodily disease is first imparted to the animal organs in the base of the brain. But let the child or adult become so very sick that his physical powers are prostrated—and it is these animal passions and desires that are prostrated first and most, whilst the moral and reasoning powers are less impaired—and the first sign of returning health is his increased hunger (Alimentiveness), his irritability and fault-finding disposition, &c.

The phenomena of death accord with this principle. The extremities are prostrated first, sensation and nervous action rapidly decrease, the animal passions follow next, connubial and parental love, appetite, anger, hard feelings, and love of the world, all yield before the moral or intellectual faculties feel its deadening influence. Vitativeness, also an animal organ, situated in the lowest part of the base of the brain, lets go its hold on life, leaving the dying man willing to depart. Dying persons often attempt to speak, but cannot, their organs of language and memory, situated in the lower portions of the forehead near the body, being too far gone to give utterance to the still operating organs of reason located higher up. The pious Christian, '*Dei Gratia,*' often dies in the triumph of faith, that is, in the vigorous exercise of the moral faculties after the death of his animal nature, whilst others often in the reversed or painful action of these organs.

The proverb, '*old men for council, young men for action,*' embodies this same principle. 'Action' and force of character are given by the vigorous exercise of the animal propensities, which are stronger in young persons than in old, only because their bodies are more vigorous.

But 'counsel' depends upon the reasoning organs, which, being located in upper portion of the forehead, retain all their pristine vigour long after both the physical energies, and with them the animal passions, are weakened by age. This principle explains the fact that the passions, the appetite, the Amativeness, the ebullitions of anger in young men, are often ungovernable; while in after life, these very men become ornaments of society and eminent for talents; that the wildest boys generally make the smartest men; that solitary confinement and hard labour, by reducing the tones of the body, subdues the pride, obstinacy, maliciousness, and other vicious inclinations of convicts, and that the talents often increase after the body begins to fail, after ambition wanes, and long cherished animosities begin to weaken.

So also the memories of children and youth are astonishingly retentive and vigorous, whilst those of aged persons are enfeebled; but the judgment of the latter is strong, whilst that of the former is weak, because the organs of

memory, being in the base of the forehead, are vigorous when the body is vigorous, and become enfeebled by age; but those of judgment are in the upper portion of the forehead, and therefore partake less of the weakened state of the body. A severe fit of sickness, when it leaves the body in an enfeebled state, is sure to weaken most kinds of memory, whilst it seldom impairs the judgment. Probably half of my readers have experienced the truth of this remark, and scores of cases could be narrated in which improved health has strengthened the memory.

Again, hunger is highly promotive of anger, whilst fulness of bread promotes kindness. Thus when a man comes home hungry, he is highly irritable, cross, and displeased with everything; but if you wish to break unpleasant news to anyone, or to obtain a special favour, take him after dinner. When well fed, the ferocious animals are tame and harmless, but when hungry, their ferocity is ungovernable, and their destructiveness lashed up to the highest pitch of fury. So the ferocious Indian, when he wishes to kindle his thirst for war and blood to the very climax of rage and revenge, fasts a while. Now, why should the irritated state of the stomach, and thereby of the body in general, excite to morbid action the animal propensities merely? Why should not hunger increase the flow of kind, of conscientious, and of devotional feeling, instead of anger, revenge, and ferocity? This principle contains the answer.

After delivering this lecture in Smithville, N.Y., an elderly deacon stated that he had experienced the truth of the above principle. He said that he had once been so very sick that he and all his friends expected every breath to be his last, that he had no desire to live, no regard for his wife and children, although both before and since it was particularly strong, had not the least illwill against any one, though before he had felt hard towards several, no regard at all for property, and not a worldly feeling left, although in the entire possession of his intellectual and moral faculties, and perfectly conscious of everything that occurred. He was also able to reason and think, though unable to speak. On the return of health, his animal feelings returned.

Dr. Vanderburgh, of New York, relates the following fact. A patient of his by mistake took a preparation of potash, which gradually and in about eighteen months, terminated his life. It first neutralized his love of wife and child, before very strong; next his anger, before ungovernable, fell a prey to its ravages, and his ambition next, whilst his still sound intellect, saw this gradual destruction of his animal nature. He retained his reason to the last. Volumes of analagous facts might be adduced incontrovertibly establishing, as a law of our nature, the proposition under discussion, namely, that whatever stimulates the body, thereby proportionally excites the merely *animal* nature of man, and that in a vicious direction, whilst whatever weakens the body, thereby weakens the memory in general, and also the animal feelings. Beyond all dispute and controversy, this is a law of our nature, and a law too, from which there is no appeal, and in the action of which, no variation. Whoever violates it, must abide the consequences.

The inference then becomes obvious and powerful and *inevitable*, that alcoholic admixtures of every kind and degree, by stimulating the *body*, thereby powerfully excite merely the *animal* nature of man, and weaken his moral and intellectual powers, the very conditions which constitute a brute. And the fact that his animal organs are several times larger and more active than those of the brute creation, renders him, when stimulated, so much the more of a brute than they are. No more can any human being take alcoholic liquors in any form or degree, without proportionally inducing this result, without thereby brutalizing his nature, without degrading his manhood below his beasthood, and subjugating the former to the latter, thus reversing the order of his nature, that he can 'carry coals of fire in his bosom and not be

burned.' As soon will any other law of our nature fail to do ample justice as this. As soon will the deadly poisons become harmless, or the water slide up the inclined plain of itself, as alcoholic stimulants fail to produce animality, and to weaken the moral feelings. Nor is there any middle, any moderate ground. Every identical drop of alcohol has its legitimate, its stimulating effect upon the nerves, and through them upon the organs of the animal propensities. As far as it goes *at all*, just so far it goes towards making a man a brute, aye, and even worse than a brute; for as it requires a fallen angel to become a demon—a tall arch-angel to become the prince of devils—so the higher man ranges in the scale of being, the lower alcohol sinks him. As the greater any gift or blessing is, the worse it becomes when perverted; as connubial love and faithfulness are among the highest of virtues, and productive of the purest enjoyment, and as licentiousness is the vice of vices, and attended with consequences the most painful; as reason, God's crowning gift to man, when perverted, becomes a proportional instrument of evil and misery, so man, brutalized, becomes vastly lower, vastly worse than a brute, and proportionably more miserable.

Let it here be distinctly understood and remembered, that whatever contains alcohol, be it the alcoholic drinks as such, namely, rum, gin, brandy, cider brandy, whiskey, &c., &c., or be it any of the wines, foreign or domestic, be it malt liquors, strong beer, porter, ale, hard cider,\* cordials one and all, everything containing alcohol in any form or degree, is productive of this result in just that proportion in which it contains this powerful stimulant, this deadly poison. It is the stimulating property that does the mischief.† By taking pure alcohol as our basis, and applying the rule of three to the amount contained in the several kinds of strong drinks, we can decypher the amount of bestiality produced by each. A single glass will stimulate a little, two glasses will double the result, and so on to beastly drunkenness. If ten glasses of rum or brandy per day will make a man a brute, then will one glass a day make him one tenth of a brute. And if wine, or beer, or malt liquor, or hard cider contain one-fourth, or one-sixth, or one-tenth as much alcohol, in that proportion will they severally induce this same result, and four, or six, or ten times as much of these liquors produce this result in the same degree, because, mark well the ground of this inference, every glass, every identical drop, stimulates, and every minute degree of stimulant proportionably kindles the animal passions.‡

WHOEVER, THEREFORE, TAKES ALCOHOLIC STIMULANTS IN ANY OF THESE FORMS, OR IN ANY OTHER FORM OR DEGREE, THEREBY AROUSES HIS ANIMAL PASSIONS, AND WEAKENS HIS MORAL AND INTELLECTUAL POWERS, JUST IN PROPORTION TO THE AMOUNT TAKEN.

This principle harmonizes with and fully explains the phenomena of drunkenness. Beyond all question, and in all instances, drunkenness certainly

\* The use of this term is not designated to give a thrust at the whig political party, for aspirants of both parties often pursue the detestable policy of treating to gain votes. A vote should always be the expression of intellect and moral sentiment. But by selling his birthright of freedom for grog, which dethrones both, the voter renders himself a mere brute, as seen in the text. His vote, therefore, contains no intellect, and is on a par with the vote of a horse, a wolf, or a hyena. To purchase a venal vote with money is bad enough, but to gain one by grog is a thousandfold worse, because it renders the office seeker a drunkard by drinking with so many, and also the voter, by furnishing occasions for drinking. This practice is yearly ruining thousands.

† It has been fully shown that many of our so called wines are manufactured in our large cities, and contain several other highly injurious ingredients. This only strengthens the argument against their use. They are a two-edged sword, cutting both ways, whilst ardent spirits cut but one way.

‡ This principle is equally applicable, except in a lower degree, to every other class of stimulants—to opium, tea, coffee, tobacco, snuff, condiments, mustards, spices, flesh, and everything heating and stimulating.



destroys the moral feelings, and weakens the intellect, whilst moderate drinking lowers them in proportion to the stimulus taken, as surely as cold sinks the thermometer.

That alcoholic drinks powerfully excite Amateness, which is located in the very base of the brain, is a universal fact. The vulgarity, and obscenity, and licentiousness occasioned by them, are proverbial. Who ever saw a drinking party that were not indecent in their allusions, given to the relation of obscene anecdotes, and to the singing of lewd songs, if not given to the company of harlots? Hence, in England, when the wine is introduced after dinner, modest woman always retires, because she knows that by remaining, her delicacy will be shocked. Wine or ardent spirits of some kind is indispensable to any and every debauch. Why are harlots universally drunkards? Let this principle answer. These drinks drown the voice of conscience, blunt modesty, stifle the claims of morality, of intellect, and of virtue, whilst they whirl its guilty victim on in her sensual career of merely animal indulgence. A man or woman, be they ever so moral or virtuous, when under the influence of intoxicating drinks are of easy virtue. Before the first advantage can be taken of a virtuous woman, she must be partly intoxicated, and the advantage can be taken of almost any woman when thus stimulated. And if this is the fact of virtuous, modest woman, what is the fact of less virtuous man?\*

The drinker's (not drunkard's) combative or contending propensity, is also unduly excited. So combustible is his anger, that he takes fire at every little thing, and more hard feelings, broils, fights and duels are engendered by ardent spirits, than by all other causes united. Whoever saw men fight unless they were excited by liquor? Or who ever saw men in liquor who were not easily angered, and 'all fit for a fight?' Byron says that stimulants always rendered him 'savage and suspicious.'

Alcoholic drinks also stimulate Destructiveness, or the bitter, hating, revengeful feeling; and hence drinkers will caress their wives and children one minute, and beat them the next. More murders are caused by the stimulating influences of ardent spirits than by all other causes combined. Let the calendars of crime testify on this point. Hence, also, intoxicated men not only rail, curse, break, destroy, vociferate, and threaten vengeance more than when they are not intoxicated, but it is then that any old grudge, otherwise long since buried, is raked up, and dire vengeance sought and obtained; and generally a human being can screw up his Destructiveness to the sticking point of murder, and screw down his Benevolence and Conscientiousness below the remonstrating point, only, or at least most effectually, by ardent spirits.

It is the excessive exercise of the animal propensities which subjects criminals to the penalties of violated civil law. It is mainly by drinkers that our courts are supported. Let our intelligent lawyers, let our judges, sheriffs, justices, &c., &c., answer this question—'Does not most, if not nearly all, of your crime have its origin in drinking?' But in case alcoholic drinks did not excite the mere animal passions, or in case they equally stimulated the moral faculties, or especially if they stimulated the moral faculties only, this state of things would be reversed, and drinking would render mankind more virtuous instead of most vicious.

This principle explains the fact that alcohol often renders a good man a real demon incarnate. So long as the moral and intellectual organs predominate,

\* How is it possible for a woman of delicate feelings to tend a bar, go to balls or parties where wine or spirits are freely drunk, or consent to be for a moment in the company of men who stimulate? Surely no modest or refined woman who understands this principle, could on any occasion allow herself to drink wine, porter, or any other kind of spirituous liquors, with or in the presence of those who do understand it, because she thereby renders herself liable to say or do what it would make her blush to reflect upon. My only motive for introducing this fact here, is to make women ashamed to drink, and thereby render this most pernicious habit unpopular among men.

no matter if the animal propensities are vigorous. If duly governed, the more the better, for they impart force. When the two are about equal, with the moral in ascendancy, and the animal not stimulated, all goes right; but a little stimulant will turn the scales, and thus render a really good man a very bad one. But mark well the converse; it never renders a bad man a good citizen, nor an immoral man virtuous, because it never stimulates the moral and intellectual faculties more than the animal feelings.

This general principle explains the reason of the custom of drinking grog with a friend, instead of drinking, or doing, anything else. As Adhesiveness, or the organ of friendship, is located in the base of the brain, ardent spirit warms it up to vigorous action, thus augmenting the flow and intensity of friendly feeling, and hence you will often see those who are half-slued, hugging, and caressing each other. In case it excited friendship alone, it would do little injury, perhaps good, but as it inflames the other animal passions also, drinkers will be the warmest of friends one minute, and the bitterest of enemies the next, producing that irregularity which we have already shown to constitute vice.

Philoprogenitiveness, or parental attachment, is also located in the lower portion of the hind head, and hence the half-intoxicated father will foolishly fondle his boy, talking to him all sorts of nonsense, to be followed up by a cruel beating, thus destroying even-handed government, and spoiling the lad. Liquor excites conversation, because Language is in the lower part of the forehead; but as the reasoning organs, which manufacture ideas, are in the upper portion of the forehead, and therefore not only stimulated, but actually weakened by it, the drinker talks, talks, talks all the time, but says nothing. He talks words only, not ideas. How foolish, how destitute of sense and reason, of thought and refinement, is the conversation not only of drunkards, but of those who stimulate themselves only moderately! Witness bar-room conversation. A Byron, half-intoxicated, may indeed write his *Don Juan*, and like productions; may compose poetry mostly addressed to the passions of men; but no one in this state ever wrote a *Paradise Lost*, a *Thompson's Seasons*, a *Locke on the Human Understanding*, *Brown's Mental Philosophy*, or *Parker on Religion*. A Pitt, a Fox, a Sheridan, not to name cases in our own country, may be eloquent when partially intoxicated, yet their eloquence will be characterised by sarcasm, severe invective, denunciation, declamation, hyperbole, narration, and a remarkable flow of words, &c., rather than by argument, or profundity, or clear deduction from first principles, nor will it be freighted with rich ideas. But before alcohol can produce eloquence, a quality far inferior to reasoning power, the individual requires a peculiarity of temperament and phrenological developments not found in one man in millions; while it will destroy the power of all the other organs.

Again, over-excitement produces that confusion which prevents the advantageous exercise of one's powers; and alcoholic drinks, by surcharging both the muscles and brain with excitement, prevent the even, equable, harmonious and advantageous expenditure of that strength, both mental and physical, which is thus unnaturally called forth.

Virtue, vice, and intellect depend more upon what we eat and drink than upon almost any other cause. A depraved appetite inflames and diseases the stomach; this corrupts and inflames the blood, which by fevers and exciting the body, thereby stimulates the animal propensities, and weakens the moral and reasoning powers. This is particularly true of alcoholic drinks.

These drinks are sometimes taken to drown trouble, but we see that they are particularly calculated to augment it, except that of a guilty conscience, which they do indeed drown.\*

Having clearly shown that alcoholic drinks produce vice by stimulating our

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\* They only drown it for a time. It rises again, and tortures more terribly than ever.—J. B.

merely animal, and weakening our higher, nobler powers, we reverse the principle, and observe that they cause vice and misery, secondly, by paralysing these organs. These drinks produce vice, first by inflaming Amativeness, and producing licentiousness, and secondly, by deadening connubial and parental love, thus unfitting him for discharging his obligations to his family, and leaving them a prey to the ungoverned fury of his Combativeness and Destructiveness, besides destroying all the enjoyments growing out of the healthful exercise of the domestic feelings. Accordingly, the moderate drinker forsakes the virtuous and delightful fireside for the bar-room, while the drunkard inhumanly beats or murders his wife and children.

The moderate drinker's Combativeness and Destructiveness are stimulated to fighting and revenge, while those of the drunkard are so deadened, that he will not and cannot take the part of his family, nor even of himself, so that a little boy may impose on him with impunity. He has no moral courage, and is so irresolute that he can overcome no obstacle, and effect no difficult object. The moderate drinker's Acquisitiveness is over-stimulated, and he is for driving a bargain, yet his intellectual organs being weakened, he gets cheated; or else a few glasses make him as rich as Cræsus, whilst the drunkard's love of property is gone. Hence he has no industry, no economy, no forethought to lay up for to-morrow's wants, and thus squanders his all for liquor, even to the bread out of his children's mouths, and the clothes from his wife's back. This principle explains how it is that alcoholic liquors always scatter their devotees' property to the winds.

Whilst they inflame the moderate drinker's self-esteem and love of approbation, producing boasting, bragging, haughtiness, swaggering, a self-conceited egotism, &c., they eventually annul all sense of character, and self-respect, and all regard for his reputation, which constitute the strongest incentives to virtuous and praiseworthy actions, as well as restraints upon vice and self-degradation. At first, he is mortified beyond description if seen intoxicated; afterwards he cares not a farthing for his credit nor his word, for his honour nor anything said for or against him or his family; he is dead to shame, destitute of dignity and manly feeling, and associates with those to whom he would before have scorned even to speak.

Again: these organs of ambition always combine with the other organs that are most active. Combined with Conscientiousness, they give the highest regard for moral character, and for correct motives; with intellect, a desire for reputation, for learning and talents; with Ideality, for good taste, good manners, &c.; but combined with Combativeness, they give regard for being the best wrestler, the best fighter, &c.; with the other animal propensities, for being first in their indulgence. Hence, as already seen, since alcohol weakens the higher organs but stimulates the animal propensities, and also the ambition, the two combining render him emulous of being the most licentious, the greatest fighter, or wrestler, or drinker, or swearer, the most vulgar, &c.; but never of being good or great.

In Easton, Md., in January 1840, the author saw two young men vie with each other, as to who could drink the most grog, no very uncommon thing among drinkers. The next day one of them was a lifeless corpse. Now why does the ambition of the drinker (not of the drunkard, for he has none,) descend to the animal passions, instead of ascending to the moral and intellectual? This principle contains the answer. Thus alcohol first over-excites the moderate drinker's ambition, only to direct it to animal objects, and then deadens it, rendering him doubly wicked both ways, and of course proportionally miserable, as seen in Proposition III.

It equally destroys his firmness and powers of will. He knows the right, intellect being less deadened, and yet pursue the wrong, having lost all self-government. Conscientiousness may remonstrate, but to no effect, because located too far from the body to be proportionably stimulated. Religious

feeling may lift up her warning and persuasive voice, and firmness may say no, but without effect, because they are in the same predicament. Alcoholic drinks destroy the balance of power, first by stimulating them to excess, and then by deadening them, thus being a two-edged sword, cutting the cords of virtue and happiness both ways.

It may be objected that if alcohol stimulates the animal propensities when they are weak, it is good. I answer, better have them too weak than too strong. When too weak, it is because the body is feeble and must be strengthened, not by merely stimulating the body, but by invigorating the health.

It may also be added, that is the character of the stimulant that does the main mischief. Thus fresh air and exercise are stimulants, but though they brace the body, and thereby give tone and vigour to the animal organs, they excite them in a healthy manner, and not in a morbid direction; whereas there is something in the kind of stimulus which impel these faculties onward in a morbid, illegitimate, unnatural and vicious direction. In regard to the different kinds of stimulants, one broad line of demarcation should be drawn between natural and artificial excitement.

The reader has now before him one of the main thoughts of this lecture. Would to heaven I had the combined eloquence of a Clay, a Webster, and a Brougham, together with a thousand tongues, to enforce and adorn it, and carry to the ears of every moderate drinker in Christendom; but as it is, the mere dry statement of this law of our nature must suffice. Let temperance lecturers who possess eloquence, engraft it upon this beautiful and prolific principle, which will be found to enforce the teetotal abstinence doctrine more effectually than all the descriptions of the drunkard, and all the other motives now usually employed put together. Founded as they are upon the immutable laws of our nature, these inferences admit of no evasion no cavilling. We boldly defy both moderate and immoderate drinkers, both physicians and clergymen, both physiologists and practical observers of men and things, to overthrow or even invalidate a single position thus taken, or doge one single inference drawn. Those only whose animal passions are unduly excited, and whose intellectual powers are weakened by alcohol can withstand their force.

The Rev. Mr. Murray, of Oakville, U.C., has published quite a treatise against total abstinence and in favour of moderate drinking, plausibly arguing that it is really indispensable to social and general enjoyment which harmonizes with their organs. Hence, as Mr. Murray prefers the enjoyment furnished by alcohol, which we have shown to be merely animal, we infer that his animal nature vastly prevails over his intellectual or moral qualities, because he so gladly sacrifices the latter upon the altar of the former, and in common with all other advocates of strong drink, is therefore totally unfit for his sacred office. I therefore venture the phrenological remark—that his physical or vital temperament predominates over his mental; that he has a vigorous constitution, an amply developed chest, a head nearly round, wide between the ears, and rather low and conical, which indicates powerful animal organs and weaker moral faculties.\* The principle stated above is an abundant answer to his whole work, as it is also to every similar work. From such preachers 'good Lord deliver us.'

Will that church-going people the Scotch, please observe in the light of this subject, the inconsistency of their almost universal custom of going from church to the grog-shop. A glass of strong drink will counteract a good sermon as effectually as an alkali will an acid.

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\* In giving this phrenological description of Mr. Murray's person, in Galt, U.C., six miles from Oakville, a gentleman rose and said: I know Mr. Murray well and have often heard him preach. His head and person are exactly as you describe them.

These drinks sometimes induce a preaching and praying disposition. This never occurs in the earlier stages of drink—never till they have so deadened the animal organs that large or more vigorous (because less stimulated) moral organs may in one case in thousands, take on more stimulant than the partially deadened propensities are able to receive ; but such piety, such religion, such intellect, will neither either fit a man for his duties in this world, nor his destinies in the next. I grant that these drinks sometimes stimulate the brain as a whole, yet this very rare exception does not invalidate the general law under consideration, especially since it occurs only where the moral and intellectual organs decidedly predominate.

Having shown that alcohol stimulates the moral and reasoning organs less than it does the animal, the inference is plain, that the former, in the confirmed sot, retain their vigour long after the latter have been stupified ; his reasoning organs clearly perceive the wreck and devastation thus made of the entire man, whilst his still vigorous moral faculties reproach him for his impiety, his suicide, his abuse of his family, and all his other sins of both omission and commission ; thus leaving his mental condition the most miserable and painful imaginable.

This principle may perhaps be contested. It will be objected that this proposition is too sweeping, and this inference subject to many and important qualifications, growing out of differences in climate, temperament, phrenological developments, and a great variety of both counteracting and concurring causes. It is freely admitted that a great number and variety of causes and conditions combine to modify and qualify every great physiological principle—that in some states of the nervous system these drinks will produce a far greater effect than in some other states—that tea and coffee will stimulate some and injure some constitutions more than strong drink will others—that these drinks will injure some but benefit others, &c., &c. ; but still the point at issue is this, this only—Is or is not this proposition a general law of our nature, and are not these exceptions traceable to the action of other causes instead of being nullifiers of this law? Our object should be, not to see who can argue the most plausibly, or cavil the most ingeniously, but what are the facts of the case? What is the voice of Nature, that we may learn and follow her dictates, and thus secure our own happiness? It is due to truth that we should here make the following qualification of this principle—that where the talents are of a high order, and the intellectual faculties have been much exercised, these drinks will often excite these faculties to greatly increased action, because of their great susceptibility to the influence of stimulus. There may be other exceptions, but our business is to state this general law, not to fortify it against all the quibbles of those who ‘love the good creature,’ for there is no reasoning against a man’s appetite.

#### PROPOSITION IX.

##### *Alcoholic drinks shorten human life.*

Every action of either brain or nerve, every exercise of thought, or feeling, or sensation, every motion of the body, every contraction of every muscle, in short, each and every function and exercise of the animal or mental economy, causes a proportionate expenditure of that animal power, that vital energy, which we showed in Proposition IV. to be manufactured by the vital temperament, or the internal organs. In children and youth this class of organs greatly predominates, laying in that fountain—that reservoir of animal power, or that constitutional vigour on which the brain and muscles can draw in after life. Other things being equal, the larger the reservoir, the longer an individual will live ; but when this fund of vitality is exhausted, he must die inevitably. Food and sleep are the feeders or inlets of this reservoir, whilst every mental and physical effort draws upon it. Whenever the expenditure

by effort exceeds the supply by food and sleep, a draught takes place on the original stock of vitality, that is, on the constitution, the inevitable effect of which is to hasten death.

Alcoholic drinks therefore shorten human life by destroying that balance of the temperaments which we have already shown to be indispensable to the preservation of life and death.

This law of the animal economy might be aptly compared to a merchant or business man who has his thousand pounds in bank, reserved to be used only in cases of absolute necessity. Aside from this, he is making his daily deposits and drawing his checks, so as to keep about square with himself. At length his expenditure exceeds his receipts, and he is compelled to draw on his thousand pounds. Instead of replacing the amount drawn, he draws again, and again, and again, small draughts perhaps, but numerous. By thus constantly reducing, and finally exhausting his original fund, he inevitably induces bankruptcy. Now the original stock of vital power laid up by Nature in the child and youth, is to him the thousand in bank; whilst his daily receipts by food and sleep, and his expenditure by labour and mental action, are his checks on bank. These, in the ordinary and healthy action of the man, will just about keep pace with each other, till old age, drawing by small but certain draughts, finally uses up this fund of life, causing death to come and close the scene. Thus the order of our nature is to spin out our days to a good old age of intelligence and enjoyment; while alcoholic drinks, by powerfully stimulating the brain, nerves, and muscles, causes a prodigious exhaustion of the powers of life, yet make no deposits and furnish no supplies, because, besides being indigestible, and containing no nutriment, they at first over-stimulate the stomach, only to permanently weaken and eventually destroy it; for it is a notorious fact, that hard drinkers eat less than others. Hence, by impairing both appetite and digestion, and that at the very time when the greatest resupply of vitality is demanded, every glass of alcoholic drinks proportionately exhausts the reservoir of life, and thereby brings death nearer. This coincides with the fact that the energies of the system, including the health, spirits, &c., sink as far below zero, as ardent spirits raises them above. To take alcoholic stimulants, is to commit suicide in proportion to the amount taken. Let hard drinkers, and also moderate and occasional drinkers, one and all, remember this clear principle of our nature, and drink accordingly. Do you wish to shorten your span of life, and hasten your dissolution one knot or ten knots per year, drink your one glass or your ten glasses per day; and just as surely as there is a God in heaven, just as surely as you are a human being and governed by the invariable laws of life, just so surely will your end be attained; but whoever wishes to prolong his earthly existence, must abjure stimulants in every form, in every degree.

To evade by saying that although they may have this effect upon some they will not upon you, is utter folly. If you are not a human being, if you are incapable of being stimulated by it, if you can wash your open wounds in it without their smarting, if you have no nerves, no feeling, no brain, no mind, then, indeed, but not till then, may you drink to your heart's content without incurring these terrible penalties. But as surely as you have a nerve in your body, or are capable of experiencing the least particle of sensation—as surely as you have as much mind or sensation as a lizard or a snail, just so surely will alcohol ferret out and stimulate that mind and that sensation; and as surely as it stimulates, just so surely will it draw proportionally on the powers of life, and thereby hasten the period of its termination. No more are the motions of earth and sun, or the descent of bodies to the earth, or the growth and decay of the vegetable kingdom, or the phenomena of optics, of mechanics, of chemistry, &c., governed each by their respective laws, which are all certain and fixed and uniform, than are you governed by this invariable law of life; and hence, as soon, of their own accord, and in opposition to their respective

laws, will the stone mount upwards, the water ascend the inclined plane, the sun stand still or move backwards, the seasons fail to return in due order, men see without eyes, or chemical affinities cease, as you can drink alcohol in any form or degree without shortening your life, and inflaming your animal, and weakening your moral nature.

You reply, 'But facts are stubborn things. Messrs. A., B., and C. have drank daily these forty years, and are alive and active yet.' I reply, they will be found to be wide-chested and broad-shouldered, indicating so great a predominance of their vital powers over their brains and nerves, that their small daily potations do not stimulate them enough to draw much on the powers of life. The less brain and mind a man has, the less injury will these drinks do him. A round-shouldered, broad-faced, blunt-nosed, lazy, easy, dull, listless, slow, thick-headed, neither-something-nor-nothing sort of nobody, may indeed drink a quart of grog without scarcely waking up his sluggish animalship, (and so can an old lazy ox,) but in exact proportion to one's power of mind and keenness of feeling, will alcoholic liquors stimulate that mind and those feelings, and thus shorten life. A fact in proof of this position is, that when men of great talents take to drinking, it kills them sooner than it does ordinary men. Hence, since it is the mind, not the coat or the body, but the mind that makes the man, if these drinks will not hurt you, it is because you have so little to be hurt, so little mind to be affected.

A small fly once lighting upon the horn of an ox, said to him, 'I beg your pardon, Mr. Ox, but if I burthen you I will remove.' 'O no, not at all, I did not know you were there,' was the reply. When your mind compared with your body is as significant as this fly was then, but not till then, may you stimulate without shortening life, or rendering yourself an animal; but the more of a man you are, the more of a beast will it render you. These drinks will not stimulate the snail or the toad, the swine or the rhinoceros, in proportion as they do mankind, nor will the whip; and for the same reason. Your boast therefore becomes your shame. But even if you have but a little mind, is that any reason why you should render it still weaker?

Again: the high pressure principle of the present day calls all our mental faculties into powerful action. Men now live quite too fast without being stimulated. Hence alcoholic drinks stimulate and thus injure them double and triple as much as they did forty years ago. They also injure the inhabitants of our cities and villages more than those of the country, yet neither are safe.

Still further: the constitutions of our young men are not to be compared with those of our old men; hence, alcohol will kill them off sooner than it did the A., B. and C. mentioned above, who did not probably contract this habit till they were about forty years old. Alcohol will not injure men in the decline of life as much as it will young and middle-aged men, because, first, their bodies are less susceptible of being stimulated by it; and, secondly, at this period, their strength as ascended to the top of their heads, farther from its influence.

It might be added here that persons of a highly active mind and lively feelings, besides being the more injured by these drinks, are more in danger of being ruined, and that soon; for being highly excitable, they love the excitement of drink, especially if their friendship be strong; and once in the current, they will surely be carried over the falls. With such the work is short, but fearful.

2. Having incontestibly shown that stimulants shorten life by cutting off the other end of existence, I add that they also cut off the this end of life on which we are living. The one great end of man's existence is enjoyment, as is evinced by every contrivance of his body, every faculty of his mind. These stimulants abridge his enjoyment by disturbing the equable, harmonious exercise of both his physical and his intellectual powers, and by violating

every condition of happiness—animal, mental and moral. Nay, more; it is one of the most prolific sources of positive misery that exist; of misery to drinkers, of misery to their families, and to all in any way connected with them. Thus alcohol lights the taper of life at both ends.

3. The principle is universally conceded and enforced in all our medical works, that the violent exercise of the passions is not only a sworn enemy to health and physical and mental enjoyment, but also shortens the days of the passionate man. Having incontestibly shown that intoxicating drinks stimulate the animal passions to an ungovernable extent, and weaken the powers that control them, the inference is plain and forcible that they thereby consume the life of man.

4. It also consumes it in the middle by worse than wasting the means of sustaining life. A bushel of grain is capable of sustaining a delightful exercise of thought and virtuous emotion nearly a month long. By consuming fifty to a hundred bushels of grain per day, the distillery or brewery consumes fifty to one hundred mouths of thought and study, of friendship and parental love, of intellectual and moral enjoyment.

If you reply that, but for the distilleries there would be more grain than mouths, I answer, by reducing your distilleries you augment the number of human beings; first, by prolonging the lives of the drinkers and thus also increasing their families; and secondly, increasing the means of subsistence would tend to multiply marriages, and render them more fruitful, not only in our own, but especially in other countries, to which our grain would then go.

If you again answer, that the slops of distilleries and breweries are converted into milk, flesh, &c., I answer, that a statement recently signed and published by a large number of the New York and Philadelphia physicians, attributes no small share of the astonishing mortality of the children of our large cities (above one half of all that are born) to the use of the milk of cows fed on still slops. Those who have seen and tasted the pork thus fattened, know how unsuitable it is for food, to say nothing of its greater liability to be diseased. Indeed, its price in market is low, and none but the poorest classes will knowingly use it at all.

Again: a large proportion, say from half to three-fourth, of the nutrition of the grain is consumed by the process of distillation, and nine-tenths more by its being fed first to the animal and then to the man; and even then, whilst flesh contains only 55-100 of nutrition, wheat contains 80-100, that is,  $\frac{1}{4}$  more,\* so that not one one-hundredth part of the original nourishment contained in the grain distilled finally reaches man. But what is still more, the proposition is abundantly susceptible of proof, that whilst animal food is heating and stimulating in its nature, and thereby excites the animal organs, bread stuffs are cooling, and adapted to the exercise of the moral and intellectual organs.

Finally, as 'time is money,' money is time. For example, a capitalist builds and furnishes a house which costs him ten thousand dollars, which at two dollars per day's work, makes 5,000 days or some fourteen years of time put into that house. Now the estimated cost of alcoholic drinks is one hundred million dollars annually, which at two dollars per day, amounts to fifty million days, or some four thousand lives of man's precious time, of his probation, of his earthly existence, his all, consumed annually in merely paying for this deadly drug, not to mention the time of the labourers employed in its manufacture and sale, nor the time expended in drinking it, nor the 30,000 drunkards killed annually by its use, nor the lives of hundreds of thousands rendered worse than valueless long before they die.

Even in this imperfect view of the subject, how vast is the consumption of

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\* See an article in the Genesee Farmer, from which this statement is copied. This was the result of a chemical analysis.



man's precious existence, by the use of this destroyer of the life of man, this worse than murderer of millions, this foe to mortality, intelligence and happiness, this hot-house of animal passion, this enthroner of all that is vicious and miserable, and dethroner of all that is good and great in our nature.

INFERENCE.—Since alcohols shorten human life, no crime is greater than that of making, vending, or drinking it. Man's existence is his all.

Whatever shortens man's earthly existence, cuts him off from all the blessings and enjoyments of life. Upon the value of life I will not here descant. Ask the dying man what he will give for a day or an hour longer. 'My all, and a world of thauks besides!' What punishment is too great for the murderer? None; not all combined. Yet he only abridges the period of man's earthly existence. Whoever furthers this result, be it by fire or sword, by the knife or the gun, by arsenic or laudanum, or by intoxicating stimulants, is equally guilty and equally deserving of punishment, because, mark well the ground of the inference, they one and all do precisely the same thing—they shorten human life.

Still farther. 'The partaker is as bad as the thief.' All those who aid or abet, directly or indirectly, any criminal result, are guilty and punishable. If one thief should engage you in conversation and thereby enable his partner to pick your pocket, would the punishment of the actual thief satisfy you? Should one robber stop the horse of his victim, a second draw him from it, a third hold his hands, a fourth plunge the fatal dagger to his heart, a fifth rob, and a sixth bury him, would the law be satisfied with the condign punishment of the fourth one, or the actual murderer? Does not every principle of law, every element of right and justice, every principle of reason, require the punishment of them all? I appeal whether this principle of common law is not also a principle of common sense and of even-handed justice? I leave the decision of this question with you distiller, you wholesaler or retailer, you drinker, moderate or excessive. To decide it in the affirmative, as every reasoning mind must decide it, is to return a verdict of guilty against every one at all concerned in the manufacture, sale, or drinking of alcoholic liquors, in any and every form and degree. The inference is too startling, but yet inevitable. Put the ninth proposition and this inference together, and say what they deserve by what they do in shortening human life.

And all for money. Suppose you alcohol makers and venders should set up a dollar as a shooting mark, but directly within the range and reach of your balls, there are multitudes of drinkers. You one and all keep firing at the dollar, but shooting down the drinkers, each shot telling upon their very life's blood. You see them fall, but keep on firing. Are you innocent? If not, what is your crime? Ask the bereaved wives and children of your victims. Ask your own consciences what you are by what you do, or at least help to do? Now God has established a universal, an invariable, and an inevitable connection between the manufacturing and drinking of alcoholic stimulants on the one hand, and the kindling of the animal passions and the shortening of human life on the other, precisely the same connection which we have supposed between your firing at the dollar and shooting down the men. Now put this and that together, and draw your own conclusions. True, you fire at the dollar; but your every shot penetrates the very vitals of drinkers. This is indeed thrusting the cold steel into the very vitals of the manufacturers and venders, but it is the naked steel of truth, sharpened by the laws of nature, and thrust home by the strong arm of fact and reason.

No wonder you begin to flutter, and to parry these terrible results. But this is not the place for evasion. Go back with me and scrutinize as closely as you please, every proposition and reference made, every principle adduced; and, if you can overthrow any of them, then, but not otherwise, may you escape these murderous inferences. 1. Is there not a fixed connection

between the states of mind and body? Unquestionably. Do not the states of the body reciprocally affect those of the mind? 2. Are not these relations governed by invariable laws of cause and effect? Indisputably so. 3. Does not all our happiness flow from law obeyed, and is not all our suffering merely the penalty of violated law? 4. Does not virtue, and with it happiness, consist in the harmonious exercise of all our faculties, with the moral predominant; and, do not vice and misery consist in the inordinate exercise of animal passions, in opposition to the dictates of morality and intellect? No sane mind will question it. 5. Does not alcohol powerfully stimulate the nerves? Apply it internally to the exposed nerves and see. 6. Does it not retain its stimulating properties after it is taken into the blood? As well may you say that fire does not burn as deny it. 7. Is there not several hundred per cent. more of blood, and thus of this powerful stimulus carried to the brain, thus exciting the mind, than is carried to any other equally large portion of the system? Ask physiologists, or observe whether alcoholic drinks do not excite the mind and feelings vastly more than they do the muscles. 8. Does not alcohol first stimulate and then benumb the animal propensities, and weaken the moral and intellectual powers; thus reversing the natural order of things, and producing vice, and with it misery of the worst kind, by violating the highest laws of our being? Let either the science of phrenology, or the phenomena of drunkenness, or other analogous facts answer. 9. Does not alcohol shorten life by exhausting the vital energies without re-supplying them? This proposition is invulnerable. Then is not every individual who furthers this result, guilty of shortening human life, just to make money? Ask either common law, or your own consciences. Ask reason, or facts, or a sense of right. Every proposition is invulnerable, and this terrible inference therefore unavoidable. Think of these things; and since you cannot escape the penalty of violated law, penitently acknowledge that you are perpetrating suicide, gradually or rapidly, but surely, according to the amount you drink; or committing homicide, wholesale or retail according to the extent of your custom.

OBJECTIONS.—1. If you object by saying: Then the maker of the gun is responsible for the murders that may be caused by it, I reply, that between the making of the gun and the death caused by it, there is no necessary or invariable connection; whereas, between the making, and vending, and drinking of alcoholic liquors, and the consequent shortening of human life, and the production of misery, there exist fixed and certain relations of cause and effect; the former causing the latter, especially as ninety-nine-hundredths of all the liquors made and sold, are to drink, and known to be so by maker and vender.

2. If you farther object, that 'alcohol is a good creature of God;' that had it not have been beneficial, He never would have made it, I reply He no more makes alcohol than He makes a steam-boat, or a mince pie. True the original elements which, separated from some particles and combined with others, constitute alcohol, are contained in the grain; but there is not a particle of alcohol in a million bushels of grain, any more than there is a steam-boat in a forest, or the expansive gas of gunpowder in salt-petre, charcoal and sulphur, each a thousand miles from the other. If iron ore in a forest is a steam-boat, or men in the woods a city, or wood potash, then is there alcohol in grain. Had it been necessary for man, or even promotive of his good, God would have created alcohol in its pure state. The fact is a little remarkable, that alcohol can be produced from grain, only after it begins to decay.

3. 'But Christ turned water into wine.' Gentle reader, all the wine made out of water, you are at perfect liberty to drink. Nor will 'new wine,' or unfermented beer, or sweet cider injure you; for it is the fermentation that engenders the alcohol. Keep with the letter and spirit of the Bible, and wine will not harm you.

4. 'If I do not make and sell ardent spirits, someone else will ; and I may as well have the profit as they.' So you may, and the curses with it. We have already shown, that to make, or sell, or drink it, is wrong ; and that to do wrong, that is, to violate law, incurs its penalties ; and you may as well bear the penalties as anyone.

5. 'But alcohol is necessary as a medicine.' Then use it as such. I grant that cases of nervous prostration may sometimes occur, which require some potent stimulant to arouse them ; but in such cases, let the physician deal it out, a teaspoonful at a time, which, in the days of Queen Elizabeth, was deemed a potent dose for a robust man.

6. 'But I never sell to a man when he is drunk, but only to moderate drinkers.' That is, you will not actually kill off a drunkard, yet you will make a sober man a drunkard. You will not push the head of the drowning man under water, but you will push the man who is safe on shore into the stream ; you will not perpetrate the last act in the drama of death, whilst you hesitate not to keep bringing men into that state which will inevitably shorten their days.

7. 'But I can measure my depth and stop when I please.' Observe what we have shown, that alcoholic stimulants deaden the organs of self-government, leaving you a prey to your inclinations. Stop now, if ever.

#### PROPOSITION X.

*Such are the physical relations existing between parents and their offspring, that the drinking propensities of the former is liable, if not almost certain, to be transmitted to the latter.*

But for the existence of some laws of relation in accordance with which the qualities of the parents are transmitted to their children, the latter would be as liable to resemble any of the brutes, or a tree, or stone, as their parents. But in accordance with these laws, 'like begets like,' 'each after its kind.' There are family faces and family forms of the body, family talents and family tastes and dispositions, and last, not least, family forms of the head and family appetites.

Both phrenology and physiology fully establish the assertion, that not only different forms of the body, but also certain forms of the head or certain phrenological developments, and of course the accompanying qualities of mind, are transmitted from generation to generation. Thus, whole families, from the great grandsire of all, down through all the branches of his descendants, will be over-fond of money, or proud, or eminently talented, or ambitious, or mathematical, or mechanical, or tuneful, as the case may be. Hence the proverb, 'like mother, like daughter.'

Fully to establish this proposition and its several applications, which involve the most powerful of all motives for total abstinence, would require more time and space than we can here spare. This principle is understood, and successfully applied to perfecting the shape, qualities and dispositions of animals. It applies equally to man, only in a still greater degree, because of his greater number of qualities to be compounded, and the far greater value of the improvement effected. This motive bears with prodigious force upon this subject in four ways—

Firstly.—By the direct descent of the drinking propensity. 1. Not only do the phrenological developments of parents descend to their children, and with them the accompanying mental qualities, but also their particular forms of manifestation. Hence, if the appetite of the father fastens upon or rejects oysters, or ardent spirits, butter, &c., that of the son will fasten upon or reject the same articles, and induce the consequences. The father of Dr. Kimball, of Sackett's Harbour. N.Y., could never endure the taste or smell of butter ;

and his son, though a merchant, will never keep butter in his store, solely on account of the disgust he instinctively feels towards it, preferring to forego the loss of both profits and customers, rather than to have it about him; nor can he sit at a table on which it is, unless it is of the purest, sweetest kind.

If the Acquisitiveness of the parent fasten upon landed property, that of his descendants will fasten upon the same. The town records of Newbury, Mass., near two centuries ago, required the selectmen 'to see that Mr. L— gets no more land than what belongs to him.' The disposition to acquire land, which this caution implies, is exhibited in his descendants down to the present time. Not only is the land which he selected in 1649, in Newbury, still owned by his descendants of the same name, but their Acquisitiveness has fastened upon land, land especially, in distinction from other kinds of property, and there are few, if any, families in this country, who now own so large tracts of land as this. 2. The general states of the body and mind of the parents are imparted to their children. Now alcohol stimulates the animal passions of the parent, and weakens his moral and intellectual nature, and begets the same characteristics in their children. Hence the children of drinkers are never as intellectual or moral as those of others, are usually dull scholars, quarrelsome and vicious, and the pests of society. Nor is it necessary that a father should be a drunkard, only that he should love and long after 'the good creature.' Volumes of this class of facts might be adduced, but our space allows only to state the principle. Again, the irritated state of the parent's mind will so shape his conduct to the child, as to excite and thus reincrease the same animal organs, not to mention the strong disposition of the child to imitate him.

Secondly.—Whilst the talents are mostly imparted by the mother, the propensities and desires usually descend in the line of the father. Hence this love of stimulants is more liable to be transmitted by the father than all his talents, thus visiting the iniquities of the father upon the children unto the third and fourth generations.

Thirdly.—Sometimes these qualities pass the first generation only to appear in the next, so that even though your children may possibly escape destruction, this liquor-loving stream which springs from you is almost sure to flow on to generations yet unborn, widening and deepening as it progresses, either breaking out here and there and yonder, or else sweeping your name and race from the face of the earth. True, the superior virtue of the mother may arrest its flow at its fountain head, yet what rational parent will run the venture! Is not this a most powerful motive to young ladies promptly to refuse the addresses of those young men who drink a drop of any kind of stimulants? Every woman who marries even an occasional stimulator is in imminent danger, aye, almost sure, of losing the affections of her first, her only love, past all recovery, and to follow him to an early and most bitter grave; and also of seeing her sons, otherwise her comfort and support, become her broken reed, her deepest disgrace, redoubling the indescribable miseries of a drinking husband in the still deeper, bitterer miseries of drinking, besotted 'children and children's children.'

Fourthly.—Children are very likely to have this liquor-loving taste kindled by their nurses giving them milk-punch, toddy, &c., and still more by their mothers drinking these drinks, or wine, ale, porter, strong beer, &c., a practice quite common, but most pernicious. Though, by unduly stimulating the stomach, it may temporarily augment the quantity of milk, it eventually (as seen before) only diminishes, weakens and poisons it, injuring both mother and child, besides planting a love of liquor in the infantile bosom.

Those phrenologists who stimulate themselves, thereby evince either their utter ignorance of the bearings of this science, or a criminality far greater than those who do not understand; for no individual of ordinary intellect could become thoroughly imbued with the spirit of phrenology, without becoming a thorough-going temperance man, both by example and precept.

I adjure, you, therefore, by your love of that pure, perennial fountain of pleasure, that ocean of mental and moral enjoyment of which our nature is susceptible, flowing from obedience to the laws of our constitution, and also by that literal hell of misery upon earth which inevitably overtakes and overwhelms every violator of these laws ; I adjure you by your love of life and your fear of death, and of such a death, but especially by the love you bear to your family, your name, your offspring, and your posterity ; by all that is beautiful, all that is sacred in your nature, I adjure you, abstain tectotally, now and for ever, from every form, every admixture, every degree of acoholic and stimulating drinks.

# TIGHT-LACING,

OR THE EVILS OF

## COMPRESSING THE ORGANS OF ANIMAL LIFE,

BY

O. S. FOWLER, Practical Phrenologist.

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‘NATURAL WAISTS, OR NO WIVES.’

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THE self-induced evils under which mankind groan, are many and distressing. Of these, some are imposed by intemperance, and others by poverty, sickness, and the artificial state of society in which we live; but all are brought upon man by himself. But the great proportion of them are inflicted by the tyrant goddess fashion; of which tight-lacing is one of the most painful and injurious. For the last ten years, the author has taken a bold and public stand against these evils, especially the latter. In his work on Matrimony, he censured this wicked practice in terms of unqualified disapprobation, even though fully aware that its sale would be materially injured thereby. He has since had the nuspeakable satisfaction of knowing that these brief but pungent remarks, have led to the formation of Anti-Lacing Societies, and been a rallying point for the friends of ‘natural waists, or no wives.’ With the view of extending his usefulness in this department, and doing what he can to render a practice which is as great an evil as intemperance ever was, and greater than that vice now is, as disgraceful as it is fashionable and pernicious, he has determined to devote the following pages exclusively to a practical exposition of the evils of this fashion, and thereby do what he can to induce young men not to require this self-immolation at the hands of woman, and induce the latter to abandon a practice so destructive of their own happiness and so detrimental to posterity.

In order fully to present this whole subject, it will be necessary to point out somewhat fully the functions and uses of the principal organs of the body, but the science therein involved will be dwelt upon no farther than is indispensable to show how this foolish but pernicious practice destroys personal happiness, mars beauty, undermines the constitution, depresses the spirits, shortens life, and injures posterity. Do not, fair reader, discard these pages with a sneer, but peruse attentively, and then act as intellect and moral principle may dictate.

The human body, then, is composed of three great classes of organs, all distinct in their nature and ends, but each indispensable to happiness, and even to life. These classes of organs and their functions are sometimes called Temperaments, and the predominance or deficiency of either, is called the predominance or deficiency of the corresponding Temperament. These classes of organs or temperaments are:

1. The VITAL or NOURISHING Temperament; which embraces the heart, lungs, digestive apparatus, blood, viscera, and all the internal organs,

analogous to those removed from animals in fitting them for the table, and contained within the thorax and abdomen. Its predominance gives a thick-set, stocky form of body, together with depth, breadth, and often roundness of shoulders, and thus a full, capacious chest; throws the arms far apart and sets them well back; gives a well-developed abdomen, large and strong lungs; a great power of voice; a full, strong pulse, sound and well-set teeth; plumpness of person; a large waist; full bust, and good figure. This organization gives great strength of constitution and vigour of body; a strong hold on life; a capacity for enduring fatigue, privation and exposure; an abundant supply of animal life and vital energy, to be expended either by the muscles in physical exertion, or by the brain and nerves in thought or feeling; give warmth and elasticity of feeling, and a hearty relish for food, sleep, and all the enjoyments of animal life. They furnish vitality. They impart that animal life, that physical vigour, required by every muscle, by every nerve, by the brain, by all portions of the body to sustain them in action. Without this vitality they die instantly. With it but sparingly supplied, the brain, the muscles droop, become inert and die. Lassitude, general weakness, fatigue, a permanent faintness or sinking of spirit, together with this whole class of feelings, grow out of the feebleness of these organs. Many readers know by experience what a weakening influence indigestion, or extreme fatigue, or bad breath, say the feeling of suffocation produced by being in a crowded room, or a muggy atmosphere, &c., have on both the mind and the body. Being hard put to it for breath, or afflicted with the asthma, or troubled with palpitation of the heart, or diarrhoea, or spitting of blood, or a sinking down into consumption, are all disorders of this range of organs, and the languid faintness and feebleness occasioned thereby, will serve to illustrate both their function and the effect of their feebleness or disease.

This portion of the body not only originates vitality, but supports and sustains the whole animal economy; and constitutes the fountain-head and main source of animal power and vital energy; manufactures animal heat; resists cold and heat, disease and death; and re-supplies the brain, nerves and muscles with that vital energy which their every action compels them to expend. It is the first portion of the animal economy formed, and the means employed in manufacturing and depositing matter for the formation, growth, and nutrition of all the parts requiring either; and hence, is most active in childhood and youth, when these functions are the most vigorous. Life is also extinguished sooner by a blow on the pit of the stomach than on any other part, the head not excepted, and the blood in such cases, instead of coagulating, remains liquid, all showing that these internal organs are the fountain and centre of animal life. All aged, all eminently talented persons, will be found to possess amply developed chests; and all consumptive and short-lived families, to have narrow chests. All grandmothers will be found to have large waists; for, without that ample stock of vitality furnished thereby, they cannot live to become grandmothers. The chests of long-lived persons, and of hale, hearty families, will always be found to be deep, ample and expansive; their shoulders broad, waists large, and persons stocky; but those who die young, unless of accident, or some acute inflammatory disease, as well as sickly, delicate, feeble children and invalids, will be found to be slim-built, narrow and shallow chested, small round the waist, and poorly developed in the abdomen; as are most who are afflicted with dyspepsia, liver complaint, scrofula, weakness, palpitation of the heart, consumption, and this whole class of diseases. The cause of these diseases is feeble vital organs, and their indications are a narrow chest and small waist. Other things being the same, in proportion to the development of these vital organs, that is, to the fulness of the waist and expansion of the chest, will be the health and strength of constitution. Show me a narrow chest and small waist, and I will show you a delicate, sickly invalid; but let the heart, lungs

digestive apparatus, and circulation be vigorous, and the whole system is vigorous; the feelings buoyant and elastic; the health excellent; diseases resisted; and life prolonged. Were I to take the most effectual method I know of for undermining the health of an enemy, and making him perfectly wretched, I would cramp his vital organs—in other words, I would lace him.

Another illustration. Deprive the stomach of its required supply of food. You become weaker and fainter in mind, in body, till you die of pure inaction. And this will show both the nature and function of digestion, and the importance of a healthy stomach, as well of furnishing the right kind and quantity of food. Another. Go without breath, or breathe impure air, or air saturated with poisonous gases, or breathe only half enough, or compress the chest, and the office of the lungs, as well as the importance of the abundance of wholesome air for respiration, will become sensibly apparent. Or let the heart become enfeebled—its pulsations laboured and inefficient—the blood unequally distributed, the hands and feet cold, but the head burning up with heat, the skin cold and clammy, the body chilly, the blood diseased—any disorder affecting the circulation, and you will have a practical illustration of the importance of a vigorous circulation. Let the liver, let the kidneys, let any of the internal organs be disordered, and then we feel the value of vitality by its scarcity.

Turn the tables. Let the muscles be powerful, so that you can turn off any quantity of work, and for year after year; or walk a great distance without fatigue; or move, labour, and do everything with perfect ease and even pleasure. Let the lungs be large and active, so that you can drink in full and constant supplies of fresh air to invigorate the whole system, and charge it with that vital electricity derived from breath. Let the heart send the blood, thus thoroughly vitalised, bounding and rushing through all parts of the system, even to the ends of the fingers and toes, imparting health, energy, power, spontaneous action, to every muscle, nerve, the brain included. Let the digestion be perfect; let food never trouble you; let it fill up your person, make perfect chyle, perfect blood. Let, in short, all the vital organs be fully developed, be healthy, be vigorous, so that your supply of vitality is abundant, and a flow of healthy, happy feeling thrills throughout your whole frame. Disease keeps aloof. Distress is a total stranger. You know no pain. All you see, all you feel, all you do, but makes you happy—happy beyond what words can express. Experience alone can disclose the height, the depth, the extent, the sweetness of that happiness which flows from a healthy vital apparatus.

But to show the *rationale* of this whole subject still more specifically. The food received into the stomach, when converted into chyle, escapes through an opening called the pyloric orifice, into the duodenum, where it receives two secretions, the one from the gall bladder, and the other from the pancreas or sweet bread—the two converting it into a milky substance which contains all the properties of blood, except the oxygen received from the air. Exposed to air it turns red. As the food passes along the intestines, it is assorted, the refuse part continuing along the intestine canal till it is rejected in the form of fæces, and the nourishing properties being taken up by the lacteals, which carry the nutrition along up near the backbone till it empties itself into the heart, where, mixing with the blood, it is itself converted into blood; and is sent by the heart, first to the lungs, to be oxygenated or charged with vitality, and then to be received back into the heart and sent round the whole system on its life-imparting mission. If the digestion be bad, the blood is of course imperfect, or perhaps loaded with disease; for when food lies long in the stomach without being digested, it ferments, that is, decays or rots, and thus engenders vast quantities of corruption, which, entering the blood, carry disease to all portions of the system, escaping by slow degrees through the lungs, and by insensible perspiration. Hence the importance of having good



food, and that perfectly digested ; and, when digestion is imperfect, of restoring it again to powerful and healthy action.

The heart, by every pulsation, propels the blood along the arteries, which continue to divide and subdivide, till they become too small to be seen by the naked eye. They can be traced into subdivisions still more minute by the aid of the microscope, but the most powerful optical instruments cannot trace them to their termination, so infinitely small and numerous are their ramifications. Indeed, the finest point that can be made cannot be inserted in the flesh without penetrating them. It is in these inconceivably small capillary vessels that the blood expands its life-giving energies. It then passes into the veins. But, by this time, it becomes charged with carbon, of which charcoal is mainly composed, which evolves so poisonous a gas when burned. This carbon it is which gives its dark blue, leaden aspect. To carry off this carbon, by respiration, it is one of the offices of the lungs. When, however, respiration is imperfect, the air close, the breathing obstructed by asthma, whalebone, or steel bars, this deadly poison, unable to escape, is compelled to return with the blood, to irritate the system, to enfeeble vitality, to destroy life.

Stop the action of the stomach by withholding nutrition, and how soon human beings die. Suspend the functions of the lungs, by withholding air, and how soon they suffocate. And just in that proportion in which either of these great functions is retarded, in just that proportion is life extinguished and death hastened. Tight-lacing cramps the action of both the lungs and stomach, and thereby retards both digestion and respiration, and in just that proportion deprives those who lace of life.

The amount of air supposed to be breathed at each ordinary, natural inspiration is found to average about six pints, while the amount usually inspired by a tight-laced lady, is only about three pints, or a diminution of about one-half ! Of course, tight-lacers have only half of their natural powers of life, and are therefore only about half alive, the other half being dead—dead while they live, besides the shortening of their lives by hastening death.

Again. Notice the process of breathing in yourself, and when unrestrained, you will see a full, free expansion and contraction of the ribs. Lacing prevents that expansion of the chest which is natural in breathing, and by means of which alone air can be admitted into the lungs. This shows how it is that tight-lacing prevents breathing, and thus literally suffocates its fashionable victim. And now I appeal to every corseted woman, whether she does not experience a sinking faintness, a choking for want of breath, a suffocating sensation, as though she would die ; a panting for breath, which, carried much farther, would destroy life on the spot. It is this which occasions so many laced women to faint at church, or on occasions when the house is full, and the air therefore less pure. They obtain but little breath at all events, and that little being impure, they faint for mere want of it, including also that want of circulation, caused by cramping the heart and arteries. And how quick a woman comes to herself, when her girt-strings are cut.

Tight-lacing violates another important physiological principle. Digestion is greatly facilitated by motion in the stomach. Indeed, without this motion, its functions soon become enfeebled, its conditions diseased, its product corrupt, and life itself consequently enfeebled, by the disease thereby engendered in the whole system. To render this motion constant, and thus perpetually to assist digestion, it is so arranged that every breath we draw presses downwards upon all the organs below the lungs, and thus imparts this much needed motion to the digestive apparatus. But tight-lacing girds in the lower portion of the lungs, and cuts off all that downward movement naturally imparted by breathing to the organs of digestion ; and confines all the motion occasioned by breathing to the upper portion of the lungs. By noticing the motion made in breathing, it is easy to see who is laced, for those who are laced will heave the upper part of their chests greatly, but the entire region of the abdomen

will be motionless, the consequence of which is a most fatal torpor of the whole digestive apparatus, that gradually but effectually stops the manufacture and flow of vitality at its fountain head, weakening the powers of life while we live, and bringing them the sooner to a fatal cessation.

One appeal more, and, if possible, still more cogent. It is directed to the very organ that makes our woman lace—to their vanity. Properly are you called fair. You are called fair, beautiful, lovely, handsome, pretty, graceful, charming, &c. God has made you so. Beauty is indeed a valuable addition to the character of woman. Man is constituted to love female beauty. And whatever adds to your beauty, should be sedulously cultivated. Whatever detracts therefrom, should be entirely eschewed.

Now what effect has tight-lacing on beauty? A most pernicious one—always, necessarily. You think it makes you handsome! But, think you that the wasp-like waist is in itself more beautiful than the waist given by nature? Think you that girting the waist can improve the beauty of the works of God? How would Venus de Medicis look with a little pent up waist? As well pinch up or destroy any other portion of the system, and then call it handsome! Nature is always beautiful; nature distorted is always homely. Look at the same woman, or upon two women, alike except that the waist of the one shall be distorted and her motions cramped by corsets, and the other free, her motions natural, easy, and graceful, and then tell me if a naturally full waist, rendered small artificially, is not a deformity?

But this is but a small part of the reason why lacing renders a woman homely. Can a poor, scrawny, pale-faced, spare-featured, ghastly-looking woman, possibly be handsome? Beauty is always accompanied by a plump person, and a ruddy cheek. But sickness always impairs the beauty; and death, by rendering the cheeks sunken and the looks haggard, destroys true beauty. And for this reason. A full cheek and a plump person indicate health; and this, a full supply of that animal vigour on which life and happiness depend. Now, lacing impairs the health, and diminishes the action of the lungs and stomach. This enfeebles vitality and invites death, and thus effaces beauty. Beauty cannot exist without health and a fresh countenance, and they cannot exist with tight-lacing. Lacing diminishes both the size and the vigour of the whole vital apparatus, and this causes the cheeks to fall in. But vigour of lungs and stomach both fill out and also redden the cheeks, and hence promote beauty. But tight-lacing has been shown to destroy both. One reason why marriage impairs the beauty, is because it impairs the health. But not to dwell here. I take the broad ground—a ground supported by both observation and science—that no woman having an artificial waist can be handsome. Tight-lacing would make Venus herself homely—will make any woman homely, tame and uninteresting, by making her thin, spare, scrawny, and haggard in appearance. I wish this point were fully understood. It alone would break up lacing.

But this is not all, nor even the worst. Tight-lacing diseases the lungs, as well as retards their action. Now who does not know that this inaction is a most powerful promoter of disease. Action is known to work off most kinds of disease. Let a healthy man keep still for a few weeks, and disease gathers and deepens on him, till he is compelled either to go to work again, or else to die. The virtue of Rammagi's tube consists in its giving exercise to the lungs. Let those who are predisposed to consumption but inflate their lungs daily and hourly, by full and frequent inspirations, dilating them to their largest capacity, and besides remaining healthy, they will continually increase in size and strength. But let the opposite course be pursued, and opposite results will follow. Let the lungs be cramped, and they will become diseased. The mere pressure of the corset can hardly fail to induce inflammation; and this carried far, must end in ulceration. But, however detrimental pressure is to any part of the body, and to the lungs in particular, it is their want of action

which is most fatal to their healthy condition. The law that governs them is constant action, or else disease. Nothing is more fatal to the lungs, than that inaction which tight-lacing always and necessarily induces. This, and the pressing together of their pores, which inspirations would keep apart, causes adhesions, and these inflammation, and this, ulcerations. Scarcely any one cause of consumption is more prolific. And yet, its victims are said to die of consumption, when in fact they die of lacing. It is just as bad as though they committed suicide by strangling themselves. They all commit suicide by strangulation, and thus break the hearts of friends and family, and yet the real cause of their death is overlooked, or else kept studiously out of view.

The alarming prevalence of consumption within the last few years, should cause every true lover of his country to weep. It has broken the hearts of thousands of disconsolate parents, removing one by one their fond hopes and blooming daughters, till all were carried to their long home, and they hastened into their graves mourning. And all because their vain but ignorant daughters laced. Tight-lacing answers the question, 'Why do so many more females die of consumption than males?'

But its effects on the stomach are still more cramped in proportion, and the nourishing of the system is reduced in even greater ratio. So that tight-lacers are not even one-quarter alive, and are more than three-quarters dead while alive. How can the liver act, when drawn down and bandaged with a strong girth around it? Not only is its action proportionably enfeebled, but the product of that action becomes corrupt, because the organ itself becomes diseased, and the stomach thereby corrupted, and the blood rendered impure. This carries disease to every portion of the system; especially to the brain, because that organ receives so large a supply of blood from tight-lacing. This unfolds another cause of the diseased feelings of lacers. Lacing corrupts the blood, and this diseases the brain, which makes the feelings produced by the action of that brain diseased. This diseased action of the brain is usually called craziness, or insanity. How beautiful, how philosophical an exposition of the almost universal fact that those who have laced so tight as to disease the blood are crazy. That they are crazy, is rendered evident by the state of mind described on a former page, and will be rendered still more evident hereafter.

The state of mind there described, is only the effect of partial insanity. That tight-lacing produces this state, first, by sending too much blood to the head; and, secondly, by corrupting the blood, and thereby diseasing the brain, is self-evident; and this principle fully establishes and clearly explains the fact, that tight-lacing produces mental derangement.

Tight-lacing not only diseases the blood, but also retards its circulation. How can a bandaged, labouring heart give full, strong, healthy pulsations when thus cramped up and bandaged? how send the blood to the extremities and force it through all the almost infinitely minute and ramified veins of the body? It cannot: and even if it could, the blood would be stopped in its course, especially to and from its lower limbs so that the feet must necessarily be cold, (universally regarded as one of the most prolific causes of disease,) and the muscles used in walking, be enfeebled. Who ever knew tight-laced women capable of walking much? How soon do they get out of breath, (because the lungs will not admit air enough to vitalize the blood,) and become fatigued? (because those muscles used in walking, become exhausted from the absence of well arterialized blood.) No! laced ladies are good enough to ride on the softest cushioned and most easy-riding carriages. Take care, driver! be careful, or you'll jolt them in two; for, such frail ware break in two very easy, in the middle.

To be productive of health, or physical, or mental happiness, the circulation must be uniform; and everything which tends either to retard the circulation

as a whole, or to increase the circulation of some portions, and diminish that of other portions, will be proportionally ruinous. Medical men have not appreciated the importance of equality, or proportion of circulation in the different parts. The absence of this uniformity in the circulation, is one of the main causes of disease; and restoring it, will cure most diseases. A moment's reflection and a little observation, will convince every one of the importance of this principle, and also show how wofully it is violated by tight-lacing.

A Philadelphia physician, in a letter to a lady on the effect of wearing corsets, has the following remarks: 'I anticipate the happy period when the fairest portion of the fair creation will step forth unencumbered with slabs of walnut and tiers of whalebone. The constitution of our females must be excellent, to withstand in any tolerable degree, the inflictions of the corset, eight hours per day. No other animal could survive it. Take the honest ox, and enclose his sides with hoop-poles, put an oaken plank beneath him, and gird the whole with a bed cord, and demand of him labour. He would labour indeed, but it would be for breath.'

The second great function of life affected by tight-lacing, is the nervous system and brain—that portion of the body called into action in the manufacture and exercise of feeling, thought, sensation—that portion of us for which all others were made, and which lives and is, and which constitutes the most exalted function of our nature, as well as the end and object of our existence. All our pleasures are experienced by its instrumentality, and are connected with its normal, healthy action; while every pain we experience or are capable of experiencing in this world, is the legitimate product of its abnormal, unhealthy action. For is it possible for these organs to be unhealthy, or morbidly active, or inflamed, or in any way to depart from their healthy action, without causing pain, and in just that proportion in which they depart therefrom. Those in whom this department of their organization either greatly predominates, or becomes diseased or inflamed, will generally have cold hands and feet, but much heat and pain in the head, if not a severe and continual headache, because too much blood flows to the head, and too little to the extremities. This causes them to feel nervous and irritable, and to become excited inordinately, even by trifles. Their heated imagination magnifies a mole-hill till it becomes a mountain. They are kept in a continual fever of excitement; tossed backward and forward by currents and counter-currents of feelings which they find it impossible to control. Sometimes they are elated beyond measure, and filled with ecstasy; and again they are plunged into the very depths of despair by some trifle, too insignificant to affect a healthy brain; for their sensibilities are morbidly alive to everything. They retire to their couch, but not to sleep. The boiling blood courses through their brain, and their labouring pulsations shake their very frame. They think and feel intensely upon everything, only to increase the disease, and aggravate their mental sufferings. If Cautiousness be large, they are afraid of their own shadow, and see all their paths filled with lions and tigers. If Approbativeness be large, they thirst for praise, but see the desired cup dashed from their lips by merely imaginary neglects, which are so construed that they cause the deepest chagrin and mortification. They seek sleep, but find it not. Hour after hour, they turn from side to side upon their couches, exhausted even to prostration by mental action, yet unable to compose their excited, erratic feelings. Bright thoughts flit like meteors across their mental horizon, only to vanish in midnight darkness. And if tardy sleep at last folds them in his unwilling arms, frightful dreams disturb their shallow slumbers, till they awake enshrouded in deep melancholy and impenetrable gloom. They feel most keenly only to feel most wretchedly. At short intervals a sigh, or groan, or 'Oh, dear me!' escapes them, and they internally feel, 'Oh wretched man that I am!' not because they feel guilty, but because they are

nervous. They feel burtheued with they know not what, but this only aggravates their oppression. Things, otherwise their joy, become their tormentors, and every sweet is rendered bitter. Their nervous energies are wrought up to the highest pitch of inflamed action, and yet they have no strength to staud this preternatural excitement. Days and weeks roll on only to augment their miseries. Their excited mind seeks relief in books, especially novels, which only increase their sufferiugs. The cause of these sufferings is a disordered mental temperament, and tight-lacing has a direct and necessary tendency to cause this predomiuaunce, first, by retarding the action of the vital organs and hindering digestion, nutrition, and circulation ; and, secondly, by inflaming the nervous system, and giving the blood a tendency to flow to the head, by preventing its flowing to the extremities of the skin. On inquiry into the private feelings of tight-lacers, into the secret recesses of their hearts, they will be found to feel as above described. If they have no real cause of trouble, they have some imaginary one ; yet never once dream that this girting of their waists sends the blood up to their heads, and thus morbidly excites the brain, and at the same time cuts off those vital energies which alone can sustain it ; thereby producing that disorder of the mental temperament, which causes and perpetuates this awful state of feeling. And it is right ; for tight-lacing is a great sin, and should be followed by severe punishment.

My conscience constrains me reluctantly to allude here to one other evil connected with tight-lacing. If I could omit it in justice to myself, in justice to my work, in justice to tight-lacers, and in justice to those who may marry small waists, I would gladly do it. One thing is certain, I do not do it to gain popularity, for I know it will injure (at least for a few years,) the popularity and sale of this work. I introduce it because it ought to go in—it ought to be known that it may be guarded against. Who does not know that the compression of any part produces inflammation ? Who does not know that, therefore, tight-lacing around the waist keeps the blood from returning freely to the heart, and retains it in the bowels and neighbouring organs, and thereby inflames all the organs of the abdomen, which thereby excites amative desires ! Away goes this book into the fire ! ‘Shame ! shame on the man who writes this !’ exclaims Miss Fastidious Small Waist. ‘The man who wrote that, ought to be tarred and feathered.’ Granted ; and then what shall be done to the woman who laces tight ? If it be improper for a man to allude to this effect of lacing, what is it for a woman to cause and experience it ? Let me tell you, Miss Fastidious, that the less you say about this the better ; because I have truth on my side, and because it is high time that men who wish virtuous wives knew it, so that they may avoid those who have inflamed and exhausted this element of their nature. It is also high time that virtuous woman should blush for very shame to be seen laced tight, just as she should blush to be caught indulging impure desires.

I know, indeed, that I have now appealed to the most powerful motive possible—to that of woman’s modesty ; and, therefore, I made this appeal because it is thus powerful. I wish to make woman ashamed to lace tight, and this will do it. No woman who reads this will dare be seen laced tight, because she knows it to be true, both from experience and from physiology. My object in this allusion is, to break up this most pernicious fashion, and I think this one suggestion alone, if generally known, would do it. Many physiologists know this fact, but dare not mention it. The Lord forgive those extra modest authors who dare not speak the truth for fear of offending fastidious ears, and losing reputation. Let it be remembered that a marked change is now coming over American ladies. They are known throughout Christendom for their false modesty ; but the better classes are beginning to lay down their squeamishness. A few lessons in Physiology will break it down in all whose opinions are valuable—the rest will do well to remember

that 'Evil is to him who evil thinks'—but that 'To the pure all things are pure.' A few years will see whatever odium may be attached to this allusion, converted into commendation. At all events, I dare tell the truth, and am independent of consequences.

I will add that this explains the fact that tight-lacers so easily get in love. The fact is indisputable, and the reason obvious. Tight-lacing disorders the nervous system, and this inflames the base of the brain, which necessarily excites the organs of Amativeness, situated at the lowest point in the base of the brain, and therefore the more readily affected by whatever disorders the body. In his work on Education, and also in that on Temperance, the author has demonstrated the principle that whatever stimulates the body, or irritates the nervous system, thereby necessarily excites the base of the brain in a pre-eminent degree. It is a settled principle of physiology, that nothing can stimulate or morbidly excite the body, without setting on fire the animal propensities. Tight-lacing does certainly do this. And as Amativeness is located in the lowest part of the base of the brain, tight-lacing, in rendering the brain and nervous system morbidly active, thereby necessarily kindles impure feelings. This principle cannot be evaded. It is true in theory, it is true in fact, that tight-lacing kindles impure feelings, at the same time that it renders their possessors weak-minded, so as the more easily to be led away by temptation. And this, ay, this, is the reason why certain men keep up this immodest fashion.

I heartily pity a tight-laced woman, for I know not what she feels, and what she endures. But she inflicts it voluntarily, just as the Hindoo widow burns herself to death on the funeral pile of her husband.

But another still greater evil inflicted by tight-lacing, is that which strikes a deadly blow at the very life of mankind. I refer to influence on posterity. One end of woman's existence is offspring; and who does not know that the constitution and health of the child depend upon those of the mother, and especially upon an ample development of these vital organs. The nourishment of the child, before and after birth, is a leading condition of a good mother in her capacity of a mother. If she have too little vitality to sustain her own brain and muscles—a point already shown—how can she have a surplus for her infant? To have as large a portion of her own feeble and vitiated vitality as is necessary to her child, withdrawn, makes her feel most awfully—increasing that class of feelings and cast of mind described before. Besides, tight-lacing allows so scanty a supply to the child, as often to prevent its entering the world alive, or else to hasten its time. But even if it do live to be born, and its mother live to bear it, it is so sickly, so feeble, that a trifling exposure nips the tender bond in its germ, or causes it to drag out the miserable existence of an invalid.

To every man who prefers burying his children to the trouble and expense of raising them, I say marry a small waisted, and you will be sure to have few mature offspring, and those few thinned out by death. But I warn those who wish to see a healthy, happy family growing up around them, to render their life pleasing and nurse their declining years, as well as to perpetuate their name and race, and also those who do not wish to have their hearts rent asunder by the premature death of wife or children, to marry a woman having a large waist, full breast, and deep, broad chest. Such will live long; but slim, small-waisted women must, in the very nature of things, bury their children and die young themselves. If this pernicious practice continue to rage through another generation with as much violence as it has for the last and present, it will kill all fashionable women and their children, and leave our square-shouldered, broad-shouldered, and full breasted Irish and German women alone for wives and mothers. It has already alarmingly deteriorated our race in both physical and intellectual stature, and unless checked, will soon destroy it. Let this practice be continued, and nothing can save us as a

nation : let it be abolished, and our nation will soon stand at the head of the world in every desirable quality.

No tongue can tell the number of mothers and children killed outright, or else made to drag out a short and miserable existence, by that accursed practice of tight-lacing. Most effectually does it cramp, and girt in, and deaden the vital apparatus, and thus stop the flow of vitality at its fountain-head, killing its thousands before they marry, and so effectually weakening others, as indirectly, though effectually, to cause the death of tens of thousands, aye, of millions more. Yes, and that even by Christian mothers, by the daughters of Zion, the followers of Jesus ! Yea, more. These infanticides, with their corsets actually on, are admitted into the sanctuary of the most High God, and even to the communion-table of the saints ! And poor, muffle-drummed ministers, either do not know that corseting does any damage, or, knowing it, do not open their mealy mouths, but administer the sacrament to infanticides, and to those who, while partaking of the emblems of their dying Saviour, are 'in the very act' of committing infanticide, and slow, but effectual suicide ! Nor is it thought any sin in American Christian mothers committing these things, whereas missionaries must be sent to China and Bombay, to prevent their committing these very same crimes, though by a process as much less horrible, as to be killed outright by one fell blow, is less painful than to be gradually starved and strangled, till a lingering, and therefore a most horrid death, gives relief.

I appeal to every patriot, to every Christian, to every physiologist, to raise his voice with mine in the extirpation of this great sin of tight-lacing. Let the finger of scorn be pointed at every tight-laced woman, and let small waists be shunned, instead of courted, as wives and mothers. The practice is disgraceful, is immoral, is murderous ; for it is gradual suicide, and almost certain infanticide. It is worse than infanticide ; for, to entail a diseased body and mind upon offspring, in addition to causing their premature death, is a crime of the deepest dye man can commit.

Wherein consists the difference between sowing the seeds of disease that necessarily hasten death, and killing the child outright ? The end attained is the same—the means of the former are as much more horrible than those of the latter, as a lingering death is more horrid than a sudden one. Whence that mortality of children which consigns more than one-half of all that are born in our cities to an early grave ? Is it natural ?—a part of the necessary operations of nature ? No ! it is violated nature ; and I fearlessly avow, and appeal to the decision of any man of science acquainted with the subject, whether this is not the most effectual cause of infantile death, or, what amounts to the same thing, the means of that most revolting of all crimes—infanticide ? Remember, ye young ladies, who, in dressing yourselves off for the ball or fashionable party, or promenade, I beseech you remember, that you are not only sowing the seeds of disease and premature death, which will nip all your pleasures in the bud, but which must also yield you a harvest of sorrows too many to number and too aggravated to endure—that you are bringing down not only your own soul with sorrow to an untimely grave, but, in case you become mothers, your children also with you or before you into their graves. If you wish to exclaim under a burden of nervousness and mental distress which you cannot support, 'O wretched life that I live !'—if you wish to break the heart of your husbands and friends by your premature death, and have your own souls pierced through with indescribable anguish by the death of your children ; if you wish to die while you live, and to die finally before your time ; if you wish every sensible man that sees you to think 'how foolish, how wicked that woman is ;' if you would exchange the rosy cheek of health for the portion of laced and sickly beauty, and the plump, round, full chest and form of unlaced health, for the poor, scrawny, haggard, sunken, and almost ghastly look of all who lace—then buy corset

after corset, and lace tighter and tighter, and still tighter, and keep laced night and day till the wheels of life, compressed within limits too narrow longer to continue in action, cease to move, and till that foundation of life and vitality and happiness, flowing from these compressed organs, is dried up at its very source, and ceases longer to flow.

But why does woman insist upon perpetuating so painful, so self-torturing, as well as immoral and injurious a practice? What all-powerful, all-pervading motive prompts this self-sacrifice, this self-immolation upon the altar of fashion? Does woman require this painful fashion at the hand of woman, or do gentlemen require it? And if gentlemen, what kind of gentlemen? The sedate, the religious, the good, or the young bloods and city gallants? I answer without one iota of fear of contradiction, the latter classes. All intelligent men of all ages and stations despise and discountenance this fashion. But fashionable young gentlemen, such as theatre-goers, ball-makers, dandies, and gentlemen of leisure, demand it, and that too for a reason given above, and their demand is acceded to by almost the whole of the other sex. But how happens it that this class is obeyed, while the admonitions of the other are unheeded? 'I pause for a reply!' None? No, none! The fact I know, and deplore. The reason—what is it? Who can tell why it is that when a fashionable young man, especially a city dandy, without brains or morals, and known to be licentious, yet dressed superbly in unpaid-for fashionables, recommended only by a handsome bow and a surplus of impudence, enters a country village or town, he sets every feminine heart in it on a flutter? Why does each strive to secure his arm, and expose all her charms to gain him as a lover? Can it be because he excites her Amativeness and Adhesiveness? Does this set them crazy after him, to the neglect and rejection of those whose motives are pure, hearts true, and hands able to support them comfortably! Are women so weak or crazy? Tight-lacing has already been shown to produce partial insanity, and also to excite impure desires, and putting this and that together, may explain one of the causes of this derailed preference.

But their education has some hand in this matter. I blame woman less than I pity her. It is her nature to adapt herself to man, and to conform to his requisitions; and it is the fault of her education in part that she strives to please this ruthless, immoral, corrupt class, to the neglect of the industrious, home-spun classes.

Another evident object of the ladies in their lacing and padding, is to make themselves, not the better, but the more handsome; yet corsets destroy the very beauty which they are employed to impart, for beauty depends upon health, which tight-lacing impairs, thereby rendering them scrawny and pale (nor can rouge supply the place of the rosy cheek of health), besides shortening the period of youth. Air and exercise are the best means of promoting health, and of improving the beauty. Those who keep up their physical tone and vigour, will be sprightly and interesting, and even though they may be homely, yet their animation, their freshness, and wide-awake appearance, and glowing cheeks, will make a far deeper impression than laced but sickly beauty.

'But I do not lace tight,' says one; 'Nor I,' says another; 'Nor I neither,' says a third—'I only make my clothes fit well,' says each. 'Nor am I intemperate,' says the drunkard; 'Nor I neither,' says the toper; 'I only drink till I feel better;' though both are drunk half their time. No old woman ever owns that she drinks strong tea, though it must be strong enough to bear up an egg before she can drink it. This very denial convicts them. Tight-lacers would fain make us believe that their waists are naturally small.

In view of all these multiplied and aggravated evils consequent upon tight-lacing—evils to the lacer, evils to posterity—I ground these appeals.

1. To you, industrious and intelligent young men, I appeal to raise your voice and combine your influence with mine and with other labourers in this good cause, to arrest so crying an evil, so fatal a fashion, lest your own wives



break your hearts by dying in the prime of their days, and your children redouble the agony of this bereavement by dying in your arms, to be buried with their mothers. See to it that you shun tight-lacers, and get 'Natural waists, or no wives.'

2. To you, fashionable young gentlemen, I appeal to cease requiring this fashion of the ladies. What is there in it so fascinating? Or do you wish to see how silly a fool you can make woman in girting herself to death just to please you? Or what heinous crime has woman perpetrated, that you make her atone for it by the cruel penance of tight-lacing? Or do you wish to weaken her mind and kindle her passions, so that you may the more often and easily seduce her? Or whatever be your motive, I beseech you, in the name of all that is human, to relax the rigour of this requirement. I call upon you in the name of our race, I even command you in the name of violated justice and virtue, that you no longer require this self-sacrifice, this offering up of chastity, this destruction of your race at the hand of fashionable woman.

3. To you, ye tight-lacers, I appeal! Will you not break away from the shackles of these fashionable libertines whose main end is to ruin you? Will you not turn your eyes and hearts from the fashionable to the industrious—from rakes to the virtuous; from beasts to men; from your greatest pests to your best friends; from your destroyers to those who will save you; from the worst of husbands to the best? Do not, I beseech you, any longer follow in the paths of ruin to the abyss of destruction. Unloose your corset strings. Forsake corset stores. Clothe yourselves in the garb of natural beauty, and remember that you are born, not to court and please, not to be courted and pleased by, fashionable rowdies, but to become wives and mothers—not to glitter at a ball, nor to promenade Broadway gaily dressed, but to make home a paradise, and a family happy. Will you not listen to the persuasive voice of reason, as well as of present and prospective suffering, and turn a deaf ear to the syren enticements of ruinous fashion? Come, be sensible. Act once more like rational beings, and no longer like simpletons. Do not kill yourselves and murder your offspring, and torment your husband. Dress loosely, so as to feel and act naturally; for, rely upon it, you are more interesting in your loose morning dress, than when bound up in your corset strait-jacket.

4. To you, mothers, I sound my appeal. Will you kill your children by lacing them? A physician in Philadelphia, about two hours after the birth of a fine, healthy child, was called to it in great haste; it appeared to be dying with fits. On entering, he found it in a convulsed state, gasping for breath, and turning black, just from being bandaged too tightly. He tore open the bandage, and thus instantly relieved the child. See to it, ye nurses, that the clothes are very loose on the infant's body, so that it can breathe easily and freely; and see to it, ye mothers, that you do not spoil the health and morals of your daughters by lacing them, or by even encouraging it. If you catch them fastening their clothes tight, tear them open, and explain to them the evils of compressing the organs of animal life.

5. To you, fathers, I make an appeal. If your wives are so destitute of physiological knowledge, and so full of fashionable foolery, and, withal, so anxious to marry off your daughters, as to make them follow this pernicious fashion in order to make a match, do you interpose a father's counsel; (and, if your daughters have been duly trained, your advice alone would be sufficient;) and caution them not to marry anyone who likes them a whit the better for tight-lacing; for such a husband will never support them or make them happy.

Lastly, but most emphatically, I call upon you, ye daughters of Zion, ye lovers of the Lord, ye professed followers of the meek and lowly Jesus, I call upon you, totally to abstain from this practice, and to frown upon all who follow it. If there be one self-contradiction or anomaly greater than another, it is Miss Religious Small-waist. I do not certainly know but there might

possibly be such a thing as a Christian drunkard, or a religious rascal, or a praying cheat and liar ; but I really do not see how it is possible for tight-lacers ever to enter the kingdom of heaven. If so, it must be 'so as by fire.' To lace tight is to commit suicide and infanticide, as already shown ; and can suicides and infanticides be Christians ! If so, let me not be one. Such love the young bucks and foppish beaux far better than their ' Lord and Master.' Quite too many of our female professors of religion, evidently go to church more to show their small waists, than to worship. How can ye profane the sanctuary with your corsets, your cotton paddings, and your bustles ? How can ye sing the praises of your God, or bow ' before Jehovah's awful throne,' in devout adoration and praise, with the circulation retarded, and your minds enfeebled and distracted by the uncomfortable or painful stays ? It always shocks me—it reverses my veneration—it strikes me as a great profanation of God and things sacred, to see a tight-laced lady enter or leave the sanctuary with her gilt-edged prayer book or Bible. I should as soon think of joining a company of tavern-loungers, as a church that allowed tight-lacing ; for the latter is as bad, and its evils are as great, in my estimation, as those of drunkenness.

Once more, ye daughters of Zion—once again I will call upon you to remember your standing and influence. Occupying as you do the very pinnacle of influence, your example does more to break or to perpetuate this practice, than almost any other influence that can be brought to bear upon it. Yet, which way does that all-powerful influence bear ? It bears as strongly in favour of tight-lacing, as your corset-strings do upon your waists ! Do you really suppose your Saviour thinks any the more of you for being corseted ? Then why do it, especially when you go to sing his praises and to engage in his worship ? What possible motive, drawn from religion, can a pious woman have for tight-lacing ? No more than she can have for taking arsenic ! Tight-lacing is incompatible with Christianity, or else I do not understand either its precepts or its principles.

TOBACCO:  
ITS  
HISTORY, NATURE, AND EFFECTS  
ON THE  
BODY AND MIND.

WITH THE OPINIONS OF

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GREELEY, DR. JENNINGS, O. S. FOWLER, DR. R. T. TRALL, AND OTHERS.

BY JOEL SHEW, M.D.,

Author of various works on Hydropathy, or the Water Cure.

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CHAPTER I.

EARLY HISTORY OF TOBACCO.

Pernicious weed ! whose scent the fair annoys ;  
Unfriendly to society's chief joys :  
Thou art indeed a drug the gard'ner wants,  
To poison vermin that infest his plants ;  
But are we so to wit and beauty blind,  
As to despise the glory of our kind,  
And show the finest minds and fairest forms  
As little mercy as the *grubs and worms* ?

The well-known plant 'Tobacco, or *Nicotiana Tabacum*, belongs, according to botanists, to the same natural order as *Atropa Belladonna*, commonly known by the name of deadly nightshade, and the *Datura Stramonium*, or thorn-apple, both of which are among the most powerful and deadly of the acro-narcotic poisons. The oil of tobacco, as also an infusion from its leaves, is one of the most virulent poisons known. Like the other poisons mentioned, tobacco has been used for criminal purposes. Besides the essential oil, tobacco contains an acrid alkaline principle, which can however only with difficulty be separated from it. "The empyreumatic oil of tobacco," says Christison, on Poisons, "is well known to be an active poison, which produces convulsions, coma, and death." But of its specific and poisonous effects I shall speak more fully hereafter.

There are about thirty species of tobacco, each of which possesses very nearly the same properties. Each has a strong and, to the uninitiated, disagreeable smell, and an acrid, burning taste. Either water or spirits

may be used to obtain a decoction or solution of the acrid principle. Heat facilitates the operation. The infusion obtained in spirits is of a deep green colour. The watery infusion is of a deep yellowish brown colour. Of the thirty species, two possess most of this acrid principle, viz., the *Nicotiana Tabacum* and the *Nicotiana Rustica*.

Concerning the derivation of the name of tobacco, there exists among writers a difference of opinion. According to some authorities it came from the word *tobago*, the name of a pipe used in Virginia; others that it came from *Tobago*, one of the West Indian Islands. The botanical name *Nicotiana* is from M. Nicot, who first obtained the plant from Tobago, and took it to Spain.

That tobacco was unknown to Europeans prior to the discovery of America by Columbus authorities generally agree. It is supposed to have been known to the Chinese from time immemorial, for the forms of their pipes and their modes of using appear to indicate great antiquity. The tobacco sack or the wallet and the pipe are indispensable articles for the every-day use of the Chinaman.

One author, *Meller*, says that the plant was found in the province of Yucatan, in the Mexican Gulf, in a very flourishing state. "Among the natives, who held it in the greatest possible esteem and reverence, from the almost magical virtues they attached to it, it was called *Petun*, and by those in the adjoining islands, *Yoli*. So singular a production of the country could not but draw the attention of the Spanish commander to it. The consequence was, that a specimen of it was shipped with other curiosities of the country, with a long detail of its supposed astonishing virtues in pharmacy. In the latter end of the year the plants arrived at their place of destination, and this may fairly be deemed to have been their first entrance into the civilised portions of the world.

"A dreadful disease," continues this author (an advocate of the weed), "first brought from America by the last return of Columbus, raged about this period with a fearful and unchecked virulency in Spain, committing dreadful devastations on the human frame, and finally ending in the most horrible death the imagination could picture. This circumstance served to procure tobacco a most sanguine welcome; for the sailors composing the fleet, having learned it from the natives, had disseminated the belief that it was the only known antidote against its ravages; that it in fact answered the purpose of mercury in the present day, a belief welcomed with enthusiasm, and ending in despair."

From Spain tobacco soon found its way to different parts of the civilised world, first to Portugal and then to the other European kingdoms. From Spain and Portugal it was brought by one of the French ambassadors to Paris. Here it is supposed the practice of snuff taking first commenced. The same woman, Catherine de Medicis, who was notorious for her instigation of the massacre of the Protestants on St. Bartholomew's day may be considered the first snuff-taker. She, it is said, used tobacco in the form of powder; and the practice has certainly been well kept up in that city ever since. From the fact of this queen having used tobacco, it got the beautiful names of *Herba Catherinæ Medicæ*, and *Herba Regina*, or the Queen's Herb.

About this time tobacco came under the patronage of Cardinal Santa Croce, the Pope's nuncio, who in returning from his embassy to the

Spanish and Portuguese courts, carried the plant to his own country. This individual had at another time won no small reputation by bringing from the Holy Land what he affirmed to be a portion of the real cross ; and from the general enthusiasm with which tobacco was received in the Papal States, we may believe the account that Santa Croce's celebrity was as much enhanced by the latter as by the former act.

Santa Croce thus speaks of the plant he so much admired :—

The herb which borrows Santa Croce's name,  
Sore eyes relieves, and healeth wounds : the same  
Discusses the king's evil, and removes  
Cancers and boils : a remedy it proves  
For burns and scalds, repels the nauseous itch,  
And straight recovers from convulsion fits.  
It cleanses, dries, binds up, and maketh warm :  
The headache, toothache, colic like a charm  
It ceaseth soon ; an ancient cough relieves,  
And to the veins, and milk, and stomach gives  
Quick riddance from the pains which each endure.  
Next the dire wounds of poisoned arrows cures,  
All bruises heals, and when the gums are sore,  
It makes them sound and healthy as before.  
Sleep it procures, our anxious sorrows lays,  
And with new flesh the naked bone arrays.  
No herb hath greater power to rectify  
All the disorders in the breast that lie,  
Or in the lungs. Herb of immortal fame !  
Which hither first by Santa Croce came,  
When he (his time of nunciature expired)  
Back from the Court of Portugal retired ;  
Even as his predecessors, great and good,  
Brought home the Cross, whose consecrated wood  
All Christendom now with its presence blesses ;  
And still the illustrious family possesses  
The name of Santa Croce, rightly given,  
Since they in all respects resemble Heaven,  
Procure as much as mortal men can do,  
The welfare of our soul and bodies too.

As in other countries, tobacco was received with general favour in England, although here as elsewhere it found bitter opponents. It is generally supposed to have been introduced first by Sir Walter Raleigh in 1584, or as some say in 1586. Others, however, regard it more probable that to Sir Walter is only due the honour of having been the first patron of the precious weed, and that it was first introduced into England by Ralph Lane, who returned to that country with Sir Francis Drake, 1560. The earliest evidence of Sir Walter Raleigh's using it seems to have been that of 1584. According to Lobelius, it was cultivated in England in 1570. Clucius says that "the English, on their return from Virginia, brought tobacco pipes made of clay ; and since that time the use of drinking tobacco hath so much prevailed all over England, especially among the courtiers, that they have caused many such pipes made to drink tobacco with." Whatever may be true on the subject, Sir Walter Raleigh appears to have the credit of having been at least its most distinguished patron in the time of its introduction into England. There is an amusing anecdote respecting Sir Walter's early use of the article. There is yet standing at Islington a public house,

called the Pied Bull, in which the distinguished knight lived. While he was at one time enjoying quietly in his room his favourite pipe, a servant entering saw his master surrounded by volumes of smoke. Ignorant of the cause, and alarmed at seeing him, as he supposed, on fire, he rushed from the room and soon returned with buckets of water, with which he completely drenched the distinguished lover of smoke. The assertion which has been made by some, that Sir Walter was executed by King James for his indomitable love of the herb, is doubtless a mistake, as would appear from the testimony of the herbalist Parkinson, who, in speaking of the kind of tobacco, *Nicotiana Rustica*, says, "Although it be not thought so strong or sweet for such as take it by the pipe, yet have I known Sir Walter Raleigh, when he was a prisoner in the Tower, make choice of this sort to make good tobacco, which he knew so rightly to cure, as they call it, that it was held almost as good as that which came from the Indies, and fully as good as any other made in England."

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## CHAPTER II.

### INTRODUCTION OF TOBACCO INTO GREAT BRITAIN AND THE UNITED STATES.

Great men and green worms will use their tobacco,  
But ne'er will a pig or his wife, ah! alack! O!

Tobacco, notwithstanding its power of fascination, has suffered romantic vicissitudes in its fame and character. It has been successively opposed and commended by physicians, condemned and eulogised by priests and kings, and proscribed and protected by governments; while at length this insignificant production of a little island or an obscure district has succeeded in diffusing itself through every climate, and in subjecting the inhabitants of every country to its dominion. The Arab cultivates it in the burning desert—the Laplander and Esquimaux risk their lives to procure a refreshment so delicious in their wintry solitude; the seaman, grant him but this luxury, and he will endure with cheerfulness every other privation, and defy the fury of the raging elements; and in the higher walks of civilised society—at the shrine of fashion, in the palace, and in the cottage, the fascinating influence of this singular plant commands an equal tribute of devotion and attachment.—DR. PARIS.

WHILE on the one hand, kings, queens, divines, and physicians learned soon greatly to relish tobacco, there were on the other, persons of like dignity and influence who as strongly denounced it. By priests its use was declared sinful. Pope Urban VII. published a bull, excommunicating all persons found guilty of snuffing or smoking during divine service. In the earlier times of New England, also, laws were enacted against the using of tobacco on the Sabbath day. In some parts of Switzerland, as the canton of Berne, in 1661, it is said the public authorities placed the sin of smoking among the ten commandments, and immediately opposite that against adultery. Pope Innocent, 1690, renewed the bull of Pope Urban; and thirty years after this, the Sultan Amurath IV., it is said, made the use of tobacco a capital offence, on the ground of its causing infertility. At one time smoking was forbidden in Russia, on penalty of having the nose cut off; and at a subsequent period, the punishment was mitigated to the offender being conveyed through the streets with a pipe bored through the nose. This last mode of punishment reminds us of

the awfully barbarous persecutions which were inflicted on the Quakers and Baptists at an early period of the Puritanic sway in New England, when holes were bored through men's ears for the crime of being a Quaker, and when both Quakers and Baptists were put to death for persisting in worshipping God according to the dictates of their own consciences.

Of all the enemies tobacco has had to encounter, King James I. stands pre-eminent. All who are acquainted with the history of the plant have read of his famous "Counterblaste of Tobacco." "Tobacco," says King James, "is the lively image and pattern of hell; for it hath by allusion in it all the parts and vices of the world, whcreby hell may be gained; to wit, first, it is a smoke—so are all the vanities in this world; secondly, it delighteth them that take it—so do all the pleasures of the world delight the men of the world; thirdly, it maketh men *drunken* and light in the head—so do all the vanities of the world, men are drunken therewith; fourthly, he that taketh tobacco cannot leave it, it doth bewitch him—even so the pleasures of the world make men loth to leave them; they are for the most part enchanted with them. And further, besides all this, it is like hell in every substance of it; for it is a stinking, loathsome thing, and so is hell. And finally, were I to invite the devil to dinner, he should have three dishes—first, a pig; second, a poll and ling of mustard; and third, a pipe of tobacco for digesture. Have you not reason to forbear this filthy novelty, so basely grounded, so foolishly received, and so grossly mistaken in the right use thereof? In your abuse thereof, sinning against God, harming yourselves both in person and goods, and raking also thereby the marks and vanities upon you; by the custom thereof, making yourselves to be wondered at by all foreign nations, and by all strangers that come among you to be scorned and contemned!" And King James closes his "Counterblaste" with the following remarkable passage: "*It is a custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs, and, in the black, stinking fumes thereof, nearest resembling the horrible Stygian smoke of the pit that is bottomless.*"

Camden, the historian, speaking of the introduction of tobacco into England, says: "Some through wantonness, with inexpressible greediness, sucked in, through an earthen pipe, its excessively stinking smoke, which they afterwards blew out of their nostrils; insomuch that tobacco shops are not less frequent in towns than ale-houses and taverns, so that Englishmen's bodies, who are so delighted with this plant, seem, as it were, to be degenerated into the nature of barbarians."

Joshua Sylvester, a poet and contemporary of King James I., wrote a poem against tobacco, which bore the following curious title: "*Tobacco battered and the pipes shattered (about their ears that idly idolise so base and barbarous a weed, or, at leastwise, overlove so loathsome a vanitie), by a volley of holy shot thundered from Mount Helicon.*" This author considered tobacco a provocative to intemperance, and in the following lines ingeniously derives its name from Bacchus, the god of strong drink:—

Which of their weapons hath the conquest got  
Over their wits; the pipe or else the pot?  
For even the derivation of the name  
Seems to allude to, and include the same:  
Tobacco, as *too Buchchoo*—one would say;  
To cup-god Bacchus dedicated aye.

The invention of guns and tobacco-pipes Sylvester regarded as being of Satanic origin, and foretold in the Apocalypse—as appears in the following lines :—

Two smoky engines, in this latter age,  
 (Satan's short circuit, the more sharp his rage,)  
 Have been invented by too wanton wit,  
 Or rather vented from th' infernal pit,—  
 Guns and tobacco-pipes, with fire and smoke,  
 At least a third part of mankind to choke  
 (Which happily th' Apocalypse foretold) ;—  
 Yet of the two we may, I think, be bold  
 In some respects to think the last the worst,  
 However both in their effects accurs'd ;  
 For guns shoot from-ward only at their foe,  
 Tobacco pipes homeward into their own,  
 When, for the touch-hole firing the wrong end,  
 Into ourselves the poison's force we send.

Sylvester's description of tobacco and its votaries runs thus :—

Of all the plants that Tellus' bosom yields,  
 In groves, glades, gardens, marshes, mountains, fields,  
 None so pernicious to man's life is known  
 As is tobacco, saving *hemp* alone.  
 If there be any herb in any place  
 Most opposite to God's good herb of Grace,  
 'Tis doubtless this ; and this doth plainly prove it,  
 That, for the most part, graceless men do love it,  
 Or rather dote most on this withered weed,  
 Themselves as withered in all gracious deed.  
 If then tobaccoing be good, how is't  
 That lewdest, loosest, basest, foolishhest,  
 The most unthrifty, most intemperate,  
 Most vicious, most debauched, most desperate,  
 Pursue it most : the wisest and the best  
 Abhor it, shun it, flee it as the pest.

There was one very amusing occurrence which every one will recollect, of the times in which tobacco was introduced into England. In the beginning of the seventeenth century the early planters of Virginia were nearly or quite all single men. They considered themselves as merely transient residents of the colony, and their habits became dissolute. As a remedy for this evil, the company in London determined to transport a number of young ladies to supply the planters with wives—the very best means certainly that could possibly be devised. But it was singular enough that these young ladies should be made things of merchandise. “A cargo of these fair creatures,” we are told, “was accordingly dispatched, and was received with the greatest delight and enthusiasm by the planters ; but the wary merchants at home had taken care to make their consignment a mere mercantile transaction, and each young lady was obliged to find a lover who would give an hundred and twenty pounds of tobacco in exchange for her fair self, to pay the expenses of the voyage.” Such a speculation as this would, as a matter of course, prove abundantly successful.

Notwithstanding all that King James and others of his time wrote against the use of tobacco, and the immense duty that he caused to be levied upon the article, it yet grew rapidly in public favour, as it has



done in all countries where it has been introduced, and it what country has it not? Certainly in all that are civilised.

Thus, amidst fierce opposition on the one hand, and advocacy on the other, tobacco has passed through the different phases of popular favour, until at length it has become an almost universal favourite with the rich and the poor, the high and the low, the learned and the ignorant. Within a few years past especially, its use has been exceedingly popular. Such at least is the fact in our own country. Go through the pleasantest streets of our prominent cities, all except Boston, or to the best hotels of the beautiful New England towns, not omitting those that hold forth the banner of temperance reform, and we find evidence enough of the repute in which tobacco is held among us. Were a stranger unacquainted with these things to observe the habits of Americans in the use of tobacco, he might easily enough conclude that we delight in nothing so much as

To sing the praises of that glorious weed.

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### CHAPTER III.

#### NATURE AND PROPERTIES OF TOBACCO.

Stinking'st of the stinking kind,  
 Filth of the mouth and fog of the mind,—  
 Afric that brags her foyson,  
 Breeds no such prodigious poison.  
 Henbane, nightshade, both together,  
 Hemlock, aconite—

CHARLES LAMB.

ACCORDING to the United States Dispensatory, "Tobacco is an annual plant, with a large fibrous root, and an erect round, hairy, viscid stem, which branches near the top, and rises from three to six feet in height; the leaves are numerous, alternate, sessile, and somewhat decurrent, very large, ovate, lanceolate, pointed, entire, slightly viscid, and of a pale green colour. The lowest are often two feet long and four inches broad. The flowers are disposed in loose terminal panicles, and are furnished with long, linear, pointed bracts at the divisions of the peduncle. The calyx is bell-shaped, hairy, somewhat viscid, and divided at the summit into five pointed segments. The tube of the corolla is twice as long as the calyx, of a greenish hue, swelling at the top into an oblong cup, and ultimately expanding into a five-lobed, plaited, rose-coloured border. The whole corolla is very viscid. The filaments incline to one side, and support oblong anthers. The pistil consists of an oval germ, a slender style longer than the stamens, and a cleft stigma. The fruit is an ovate, two-valved, two-celled capsule, containing numerous reniform seeds, and opening at the summit."

It was remarked in the beginning that according to botanical arrangement tobacco belongs to the same natural order as *Atropa Belladonna*, or deadly nightshade, and *Datura Stramonium*, or poison thorn-apple, both of which are among the most powerful and deadly of the acro-narcotic poisons of the vegetable kingdom, and that the essential oil of tobacco, as also an infusion from its leaves, is one of the most

virulent poisons known. "The empyreumatic oil of tobacco," says Christison, in his work on poisons, "is well known to be an active poison, which produces convulsions, coma, and death." There are a variety of facts and authorities on this point, some of which I will cite.

According to Dr. Waterhouse, Linnæus has placed in his natural arrangement tobacco in the class *Luridæ*, which signifies pale, ghastly, livid, dismal, and fatal. "To the same ominous class," he adds, "belong fox-glove, henbane, deadly nightshade, lobelia, and other poisonous plants, bearing the tremendous name 'Atropa,' one of the furies." When tobacco is taken into the stomach for the first time it creates nausea and extreme disgust. If swallowed, it excites violent convulsions of the stomach and bowels to eject the poison either upward or downward. If it be not very speedily and entirely ejected, it produces great anxiety, vertigo, faintness, and prostration of all the senses; and in some instances death has followed. "The oil of this plant," he adds, "is one of the strongest vegetable poisons, insomuch as we know of no animal that can resist its mortal effects." Dr. Waterhouse, who had ample opportunities of observation, said: "I never observed so many pallid faces, and so many marks of declining health, nor ever knew so many hectic habits and consumptive affections as of late years; and I trace this alarming inroad on young constitutions principally to the pernicious custom of smoking cigars."

Of *nicotia*, *nicotin*, or *nicotina*—the active or poisonous principle of tobacco—Dr. Wood, one of the authors of the United States Dispensatory, observes "that it is one of the most virulent poisons known; and that a drop of it, in the state of concentrated solution, was sufficient to destroy a dog; and small birds perished at the approach of a tube containing it."

Soldiers have not unfrequently disabled themselves from duty by applying a moistened tobacco leaf to the arm-pit, which causes great prostration and vomiting, and violent sickness after eating.

Great prostration and nausea have been caused by placing only a part of the hand, for a few minutes, in a strong infusion of tobacco.

Orfila, the celebrated French writer on poisons, says: "A woman applied to the heads of her children, for a disease of the scalp, an ointment prepared with the powder of tobacco and butter; soon after they experienced dizziness, violent vomiting, and faintings, accompanied with profuse sweats."

A decoction of tea made from a few grains of tobacco, and given to relieve spasms, has been repeatedly known to destroy life.

The tea of tobacco, applied to the pit of the stomach, occasions fainting, giddiness, vomiting, and cold sweats. The tea, when rubbed upon sores, ulcers, ringworms, and parts affected with itch, has been known to cause vomitings, fainting, and convulsions.

Persons under the influence of strong excitement or emotion have, by unconsciously chewing large quantities of tobacco, become terribly sick.

Dr. Mussey, formerly of New England, a very able physician, surgeon, and writer upon different subjects connected with health, made a variety of experiments upon animals, with a view to ascertain the effects of tobacco. Cats, dogs, mice, squirrels, &c. were killed in a few minutes by the application of a small quantity of the oil of tobacco to the tongue, or by introducing it into the circulation.

Dr. Eberle, in a Treatise on the *Materia Medica* and Therapeutics, remarks—"That in employing the tobacco injection, it is of the utmost importance to proceed with very great caution. If the quantity injected be too great, it will produce the most alarming symptoms, such as vomiting, cold sweats, universal prostration, syncope, and even death. I have known an empiric," continues Dr. Eberle, "destroy in less than twenty minutes the life of a charming little boy—the son of a gentleman at Lancaster, whose family I attended while residing at that place—by an immoderate injection of the infusion of tobacco."

In the Sandwich Islands, where tobacco is so generally used that children are taught to smoke before they are able to walk, adults sometimes carry the practice to such excess that they fall down senseless, and suddenly die. So we are told by those who have visited those islands.

"A Hottentot," says Mr. Barrow, a traveller in Africa, "applied some of it (the oil of tobacco) from the short end of his wooden pipe to the mouth of a snake while darting out its tongue. The effect was as instantaneous as that of an electric shock. With a momentary convulsive motion the snake half untwisted itself, and never stirred more; and its muscles were so contracted that the whole animal felt as hard and rigid as if dried in the sun."

The Indians in some parts of America, it seems, were acquainted with the poisonous effects of tobacco. They were in the habit of dipping the points of their arrows in an oil obtained from the leaves of tobacco, we are told, which, being inserted into the flesh, occasioned sickness and fainting, and even convulsions and death.

Dr. Mussey made, among others, the following experiments: "Two drops of oil of tobacco, placed upon the tongue, were sufficient to destroy life in cats which had been brought up, as it were, in the midst of tobacco smoke, in three or four minutes. Three drops, rubbed on the tongue of a full-grown cat, killed it in less than three minutes. One drop destroyed a half-grown cat in five minutes. Two drops on the tongue of a red squirrel destroyed it in one minute. A small puncture made in the tip of the nose with a surgeon's needle, bedewed with the oil of tobacco, caused death in six minutes." This author also observes that "the tea of twenty or thirty grains of tobacco, introduced into the human body for the purpose of relieving spasms, has been known repeatedly to destroy life."

Professor Hitchcock says: "I group *alcohol*, *opium*, and *tobacco* together, as alike to be rejected, because they agree in being poisonous in their natures. In popular language, alcohol is placed among the stimulants, and opium and tobacco among the narcotics, the ultimate effect of which upon the animal system is to produce stupor and insensibility. Most of the powerful vegetable poisons, such as henbane, hemlock, thorn-apple, prussic acid, deadly nightshade, foxglove, and poison sumach, have an effect on the animal system scarcely to be distinguished from that of opium and tobacco. They impair the organs of digestion, and may bring on fatuity, palsy, delirium, and apoplexy. In those not accustomed to it, tobacco excites nausea, vomiting, dizziness, indigestion, mental dejection, and, in short, the whole train of nervous complaints."

Dr. Rees, author of a *Cyclopædia*, says : “ A drop or two of the chemical oil of tobacco being put upon the tongue of a cat, produces violent convulsions, and death itself in the space of a minute.”

Barbarous experiments have been made upon mice by placing a small portion of the oil of tobacco on a fine cambric needle, and piercing it into the nose of the animal. This is found to produce death almost instantaneously.

Dr. Clay, of Manchester, England, gives the following case : “ A little boy, aged eight years, had been long affected with *tinea capitis*, or scald head, which had proved very obstinate. His father applied over his head the expressed juice of tobacco, obtained by wetting the dried tobacco leaves, then placing them between two iron plates and pressing them; by which means the juice is extracted. The fluid was applied at five minutes before two in the afternoon: the child almost immediately complained of giddiness and loss of sight, so that his father smilingly observed, ‘the boy is drunk.’ He soon after became sick, vomited frequently, and in large quantities; he had also a desire to evacuate the bowels, which he could not accomplish; his limbs tottered; his face grew pale and became covered with a cold sweat. His mother helped him to bed, into which he had no sooner entered than he had an involuntary discharge from the bowels. His countenance now appeared sunk; his limbs were motionless, excepting now and then, when his legs were drawn towards the abdomen convulsively; he complained of violent thirst, and pain in the bowels; his whole body was bedewed with a cold sweat; and at half-past five he expired, only three hours and a half after the application. On dissection, no organic change was perceptible.” Severe sickness, and not unfrequently death, have been caused by the external application of tobacco for diseases of the skin. I might quote from medical works numbers of cases of this kind.

The internal application of tobacco is, however, more dangerous than the external. A very small quantity in the form of enema or injection has not unfrequently been known to produce death. It is lamentable to notice in medical works on poisons the numbers of cases of this kind. Christison, an author before referred to, cites from M. Tavignot the following :—

“An infusion prepared by mistake, with two ounces and one drachm, instead of one drachm and a half, was used as an injection for a stout man affected with ascarides. In seven minutes he was seized with stupor, headache, paleness of the skin, pain in the bowels, indistinct articulation, and slight convulsive tremors, at first confined to the arms, but afterwards general. Extreme prostration and slow, laborious breathing soon ensued, and then coma (or deathly fainting), which ended fatally in fifteen minutes.”

Dr. Grahl, of Hamburg, some years ago published a case in which a female quack administered by injection to a lady about an ounce of tobacco boiled in water for fifteen minutes. The patient, who laboured merely under dyspepsia and obstinate constipation, was seized in two minutes with vomiting, violent convulsions, stertorous breathing, and died in three-quarters of an hour. In the form of injection, two drachms (a fourth part of an ounce), or even a drachm and a half, are considered by no means a safe dose. A single drachm in infusion has been known to

kill the patient. More cases than one of this kind are on record. A case of this kind is mentioned by Dr. Christison, as having not long since taken place at Guy's Hospital in London. The patient died in thirty-five minutes.

Dr. Paris, a medical writer of celebrity, tells us that he witnessed a lamentable instance of the effects of tobacco, where a patient had been exhausted by previous suffering: "A medical practitioner, after repeated trials to reduce a strangulated hernia, injected an infusion of tobacco, and shortly afterwards sent the patient in a carriage to Westminster Hospital, for the purpose of undergoing the necessary operation, but the unfortunate man arrived only a few minutes before he expired." "Any quantity of infusion containing more than half a drachm of tobacco," Dr. P. further remarks, "cannot be injected without danger." "Tobacco clysters," he also observes, "were some years since recommended for the purpose of forwarding difficult parturition (labour), but the alarming symptoms which followed in the only case in which it was tried prevented a repetition of the experiment."

Sir Astley Cooper and Sir Charles Bell have both recorded cases of a similar kind. The latter surgeon, in speaking of the use of tobacco in a case of strangulated hernia, says: "The patient's strength held up until the tobacco clyster (injection) was administered to him, after which he very suddenly fell low and sank." Numbers of instances of a similar kind could be quoted from medical authorities.

Tobacco appears to be an equally deadly poison when introduced into the stomach. The celebrated French poet SANTEUIL was accidentally killed in this way at the Prince of Conde's table. A portion of Spanish snuff was put by one of his companions, a practical joker, into his glass of wine—this was after the bottles had passed rather freely. Soon after drinking the draught the poet was attacked with vomiting and fever, and expired in two days amid the tortures of the damned.

Proving the poisonous character of tobacco administered by the stomach, Dr. Christison cites a case that was furnished him by Dr. Ogston, of Aberdeen, Scotland, who was employed in the judicial investigation connected with it: "An elderly man, a pensioner, was seen to enter a brothel while in perfect health, and in an hour he was carried out insensible, and was put down in a passage, where he was found by the police unable to speak or move. While carrying him to the watch-house hard by, the officers observed him attempt to vomit; but he was scarcely laid down before the fire when he expired. It was ascertained that he had drunk both rum and whisky in the brothel, and that something had been given him to stupefy him or set him asleep. On dissection, the blood was found everywhere very fluid, and four ounces of serosity, or watery substance, were found collected from the lateral ventricles and base of the skull. But there was no other unusual appearance, except that the stomach contained about four ounces of a thick brownish pulp, in which were seen several pellets of a powder resembling snuff. In these contents Dr. Ogston could detect no opium—only tobacco. No doubt could exist that the man had died of poisoning with tobacco; but as no evidence could be obtained to inculpate anyone in particular of many individuals who were in the brothel with him, the case was not made the subject of trial."

The fumes of tobacco, as taken into the system by smoking, have been

known to cause death. Not long since, in Salem, Massachusetts, the death of a lad named James Barry, aged twelve years, was said in the papers to have been caused by excessive smoking of cigars. Gruelin, a German medical author, states two instances of death from smoking, one person having accomplished seventeen pipes, the other nineteen, at a sitting. Dr. Clay, of England, says another German author states that one-half the deaths occurring in that country between the ages of eighteen and twenty-five are attributable to smoking and chewing. To one who has travelled in that country, and witnessed the almost incredible amount of smoking that is nearly everywhere practised, this assertion would not appear so incredible.

There is an interesting account of the effects of the fumes of tobacco in a particular case quoted by Dr. Clay, of Manchester, England. It occurred to a Mr. Howison, on a voyage. He says: "When the evening was pretty far advanced, the master of the schooner conducted him to the cabin, which was almost full of large packages, and pointing out where he was to sleep, left him alone. He felt a heavy suffocation, but did not examine the contents of the bales, and went immediately to sleep. Soon afterwards he was harassed by wild and frightful dreams, and suddenly awoke about midnight bathed in cold dew, and totally unable to speak or move. However, he knew perfectly well where he was, and had recollected everything that had occurred during the day, but he could not make any bodily effort whatever, and tried in vain to get up, or even change his position. The watch on deck struck four bells, and he counted them, though he did not hear the beats, but received the vibrations through his body. About this time a seaman came into the cabin with a light, and carried away an hour-glass that hung upon a nail, without observing him, though he made several efforts to attract his attention. Shortly after, a pane of glass was broken by accident in the sky-light, and he saw the fragments drop on the floor. These circumstances actually occurred, as he found on inquiry the next day, and he mentioned them to prove that the sensations he described were realities, and not the offspring of perturbed dreams. The inability to move was not accompanied with pain or uneasiness, but he felt as if the principle of life had departed from his frame. At length he became totally insensible, and continued so until an increase of wind made the sea a little rough, causing the vessel to roll. The motion had the effect of awakening him from his trance, and he contrived somehow or other to get up and go on deck. His memory was totally lost for about a quarter of an hour, and he had no idea connected with anything that was not present before him. He knew that he was in a schooner, but nothing more. While he was in this state, he saw a man drawing water from the sea in buckets, and requested him to pour one on his head; after some hesitation the man did so, and all his faculties were immediately restored, and he acquired a most vivid recollection of a vast variety of ideas and events which appeared to have passed through his mind, and occupied him during the time of his supposed insensibility. All this singular derangement had arisen from a copious inhalation of the fumes of tobacco; for, on examining the cabin, he found that the piles of packages consisted of that narcotic plant, and that quantities of it even lay under his bed: in short, that the vessel contained nothing else."

I am no friend to the barbarous and indiscriminate experimenting on animals which some anatomists and physiologists of modern times are so fond of. When a valuable principle of science is to be elicited—something that promises to be a means of ameliorating the condition of man—such experiments are legitimate and allowable, but not otherwise. Long since, lamentable experience has too often proved the poisonous character of tobacco, so that experiments on that point were not needed. Yet they have been made over and over again, with no other object than to gain notoriety in things which are extremely revolting to every humane, sensitive mind. Let, therefore, no more experiments be made on either man or animals to prove the highly poisonous and destructive character of tobacco. If one should rise from the dead, the evidence could not be made more clear and positive than it now is.

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## CHAPTER IV.

### EFFECTS OF TOBACCO.

The grand characteristic of all narcotic substances is their *anti-vital* or life-destroying property. When they are not so highly concentrated or energetic as to destroy life instantly, they produce the most powerful and often the most violent and distressing vital reaction, which causes a corresponding degree of exhaustion, depression, and prostration; and they often destroy life purely by vital exhaustion in this violent and continued vital reaction. But when the discriminating sensibilities of the system have been depraved by the habitual use of these substances, and its powers of giving a sympathetic alarm greatly impaired, these same substances, even the most deadly in nature, if the quantity be only commensurate with the degree of physiological depravity, may be habitually introduced into the stomach, and even received into the general circulation and diffused over the whole system, and slowly but surely destroy the constitution, and always greatly increase the liability to disease, and almost certainly create it, and invariably aggravate it, without any of those symptoms which are ordinarily considered as the evidence of the action of a poison on the living body; but, on the contrary, their stimulation is attended with that pleasurable feeling and agreeable mental consciousness which lead the mind to the strongest confidence in their salutary nature and effect.—*Graham's Science of Human Life.*

THAT we may gain a more clear and correct idea of the specific and varied effects of tobacco on the human frame, some remarks of a physico-pathological nature will be necessary.

The various substances that are taken into the human system as sustenance or a means of excitement may be divided into three great classes: first, simply water, by and through which all the vital processes are carried on, and of which the living body is mostly composed—there being about 90 parts in the hundred, by weight, of simple water; second, nutritious substances, such as the mother's milk, the esculent fruits, vegetables, grains, &c.—things which are merely nutritious in their character, and contain no stimulating, narcotic, or medicinal principle; and third, substances which exert upon the living system a medicinal or excitant effect, and without affording any nourishment to the system. The first of these substances, by far the most universal and abundant in nature, is the best, most natural, and in an undepraved state of the animal instinct, the most agreeable of all drinks. It is, moreover, the only one nature demands. But of itself, when pure

and unadulterated by human inventions, water is, in its nature, an inert substance. Applied of a suitable temperature to the most delicate of the living tissues, it produces no excitement or vital reaction. It acts, however, by its temperature, cooling the body or warming it, as the case may be. It acts, moreover, by moistening and lubricating the different parts, and affords throughout the entire system that amount of fluid which is indispensable to life and health, composing, as before remarked, by far the larger portion of the whole system by weight.

Substances of the second class mentioned act in some respects differently from simple water, although they contain usually a very large proportion of that fluid in their composition. Thus, milk is more than 90 per cent water. The undried fruits contain about the same proportion. Beef-tea is composed of between 98 and 99 per cent simple water. A piece of plain beefsteak, uncooked, contains between 74 and 75 per cent water, and common bakers' bread, of the white or superfine kind, about 35 per cent.

When there is in the system a natural and healthful demand for nutriment, the substances generally used for nourishing the body, particularly those of the vegetable kingdom, are received as friendly agents, so to speak. They excite upon the living tissues no undue stimulation or excitement. When the infant at the breast needs nourishment, there is nothing so friendly and grateful to its system as the pure milk from the maternal breast. After the teeth have made their appearance, it readily takes to matters of more substantial form, as fruits and the preparations of farinaceous food. Gradually it comes to subsist wholly on the more substantial articles, leaving altogether the food it was at first accustomed to take.

As regards the third class of substances mentioned, those of a stimulating, excitant, or medicinal kind, it is different. No child at first loves medicine, spirits, tobacco, tea, coffee, and other substances of a medicinal kind. I know it will be said that children very soon learn to relish tea and coffee, toddy, and, in some cases, tobacco—substances of the stimulating or medicinal class. It is true almost every child in the civilised portions of the world at the present day has some of these articles introduced into its system almost from the very first. Perhaps in the very first draught of milk it receives from its mother there is a portion of one or another of the articles in question, for the lacteal secretion is a great vehicle and outlet for all medicinal or drug articles that are taken into the system. In this way infants have often been stupefied and made actually drunk, through the milk of the toddy-drinking or tipping mother or nurse. Infants have been often narcotised and poisoned by medicines received in this way, and it is believed that life itself has been thus destroyed. Even tobacco, loathsome as it is to the uninitiated, some children are taught to relish by being subjected daily to the fumes of the detestable weed. Long before infants have left the breast, I have known mothers and wise old grandmamas teach them to suck at the pipe, which themselves, in their depraved appetite, so much relished, and for which they daily thanked God in their hearts, as much as for the bread they ate. But all this does not prove that the infant naturally relishes any of these stimulants in common and almost universal use. All correctly-ascertained experience goes to prove the



contrary. Even adult persons of undepraved appetites and instincts loathe every one of these articles as very poison. If we have not been subjected to their influence in any way such will be the uniform result. From alcohol, tobacco, tea, coffee, and so throughout the whole farrago of drugs and other stimulants, the animal instincts of an undepraved system always and invariably shrink.

In the light of these physiological principles we may then proceed to investigate in detail the effects of tobacco on the human system, in the various forms in which it is used.

When tobacco is taken into the stomach in quantity sufficient to cause any considerable effect, extreme nausea and disgust and prostration follow. It excites also severe convulsions of the stomach and bowels to eject the poison. The infusion of a quantity so small as a single drachm into the bowels has not unfrequently destroyed life. So also in the common modes of using the article, as by smoking and chewing, nausea, sickness, and sometimes vomiting are caused. I well recollect myself, when at the age in which boys begin to think themselves men, and desire to imitate the foolish customs and practices so common among certain classes, I undertook to learn to chew. But before the first effort was half finished, I was fortunately made so sick that I have never wished to make the experiment again. Such is the effect upon all persons when they first commence either smoking or chewing, unless they are brought gradually under the influence of the drug, by being often subjected to its fumes from others smoking. The father or elder brothers, or mother or grandmother, are in the habit of smoking in the house, and, as before remarked, the pipe is sometimes put into the mouth of the children; and thus gradually the habit may be acquired without sickness being produced, as in the other instances. But most users of tobacco can tell us of the times when they were nauseated, and made extremely sick in commencing its use.

But by degrees the system becomes accustomed to its effects. And here we have a proof of the remarkable phenomenon in animal physiology, that a substance which at first is nauseous, loathsome, disgusting, offensive, and which is capable of suddenly destroying life, by use comes at length to be relished by the system as its best friend. And more than this, the system becomes so habituated to its effects, that it seems well-nigh impossible for the individual to subsist without it. Behold the woman who has drank tea so much and so long that she experiences habitually *tea headaches*. She takes a "good, strong cup," and all at once, as if by magic, the headache is gone. Judging from the experience of the moment, she is led to believe that tea is a most sovereign remedy for the headache. But if she knew enough of the human system to take a more extended view of the matter, she would perceive that the very thing which appeared for the time to be so good a remedy, is the *cause* of the difficulty she experiences. So, too, the unfortunate inebriate, when he attempts to reform his habits, and feels that "aching void" which none can appreciate except those who have experienced it, takes again to his cups, every sensibility of his system most emphatically tells him that, of all things earthly, spirits are the very best. And the same principle holds good with tobacco, which obtains over men a more powerful dominion than either of the stimulants mentioned, enslaving them

to a perhaps greater degree than that of any other substance, opium not excepted.

Thus it is in the physiology of the human system : a substance which is at first, to the pure and undepraved appetite, loathsome, disgusting, and sickening, becomes at length relished as a most friendly agent ; and, to use a figure, the nerves of sensation become the angels of darkness, whereas they were, in the primitive state of nature, the angels of light. These principles of physiological science are of immense importance, and cannot be too deeply pondered by all who desire to live, as far as may be, in the permanent enjoyment of bodily and mental strength.

## CHAPTER V.

### EFFECTS OF TOBACCO—CONTINUED.

From the habitual use of tobacco, in either of its forms, of snuff, cud, or cigar, the following symptoms may arise: A sense of weakness, sinking or pain at the pit of the stomach, dizziness or pain in the head, occasional dimness or temporary loss of sight, paleness and sallowness of the countenance, and sometimes swelling of the feet, an enfeebled state of the voluntary muscles, manifesting itself sometimes by tremulousness, weakness, squeaking, a hoarseness of the voice, rarely a loss of voice, disturbed sleep, starting from early slumbers with a sense of suffocation or feeling of alarm, incubus or night-mare, epileptic or convulsive fits, confusion or weakness of the mental faculties, peevishness and irritability of temper, instability of purpose, seasons of great depression of the spirits, long fits of unbroken melancholy and despondency, and, in some cases, entire and permanent mental derangement.—DR. MUSSEY.

### TREMORS OF THE NERVES.

TOBACCO acts upon the living body probably through both the circulation and the nervous system. Any thing that is capable of producing such sudden and complete prostration as large doses of tobacco, must be supposed to act short of going the rounds of the circulation. We know, however, that the drug is in the end absorbed in a greater or less degree, and taken into the circulation, but its more sudden and prominent effect must be upon the nerves. Persons who have been for a time accustomed to it become gradually more and more *nervous*, as the common expression is ; the hand trembles, sleep becomes less sound, and the individual not unfrequently starts in his slumber as if haunted by a ghost. I never knew a man have nerve strong enough to withstand the effects of tobacco. Some think they have ; but it may always be seen that the hand of the smoker or chewer is tremulous, at least betimes, if we watch him on rising in the morning. One worthy old man I knew well, who had used tobacco to great excess ; his teeth were worn up to the gums before the age of sixty ; his hands became so trembling that he could scarcely convey the food to his mouth. He was a man of exceedingly robust constitution, and laboured at all seasons of the year in the open air ; otherwise the effects of the poison on his system would have been still more painful. This is, I admit, an extreme case : yet it is only an exemplification of what takes place, to a less injurious extent, in multitudes of instances, in every community where tobacco is used. I repeat, all smokers and chewers have sooner or later tremulous hands.

It was related by Dr. Rush, that Sir John Pringle was afflicted with tremors in his hands, and had his memory impaired by the use of snuff

out on abandoning the habit, at the suggestion of Dr. Franklin, he found his power of recollection restored, at the same time recovering the use of his hands.

Irresolution, changeableness of mind, and reluctance to engage in the ordinary avocations and pursuits of life—all of which are indications of deranged nerves—are symptoms often found attending the use of tobacco.

## HYPOCHONDRIASIS.

Hypochondriasis, vapours, or melancholy, is a very singular disease. There are, probably, in our country of inveterate smokers and chewers of tobacco, more hypochondriacs than in any other on the face of the globe. Many a case of this kind is caused in great part by tobacco. This is proved by the fact that when the tobacco is discontinued the hypochondriac is cured. It is a very singular disease, and belongs more properly to the class of *neuroses*, or diseases of the nervous system. Hypochondriacal persons may be said to be in a state of partial insanity. They can generally reason accurately on all subjects except such as immediately concern themselves. They imagine often that everything conspires to operate against them; their business, however prosperous, they imagine is going to ruin; surrounded by kind friends, and all the convenience and comforts that wealth can procure, they are yet haunted with the idea that they are coming to want. But more frequently it is in regard to the individual's health that the mind is disordered.\*

The *causes* of hypochondriasis I admit are numerous. Anything that tends powerfully to deteriorate and derange the general health may bring on this protean affection. Excessive alimentation, spirits, tea and coffee, the abuse of medicines, indolence, licentious habits, dissipation of whatever kind, the keeping of late and irregular hours, novel-reading, grief, excessive bodily or mental labour, and a great variety of causes, may aid in bringing on hypochondriasis. All that I say, then, in regard to the use of tobacco as a cause of this affection, is this—Tobacco, being one of the most powerful and deadly narcotics known, if used habitually, and in such quantity as seriously to derange the nervous system, and through this the general health, may, and often does, become *one* cause of that most troublesome and intractable disease. But neither tobacco, nor any other agent, can be a specific of this disease.

\* Dr. Mackintosh thus describes this disease: "Hypochondriac symptoms affect two classes of individuals—(1) those whose ailments are only imaginary or functional, and (2) those whose complaints are produced by organic disease. The first class of patients embraces the idle, the wicked, the dissipated, and those who are brought up without a profession, who, when left to their own resources, know not how to kill time. The minds of such persons are enervated from a want of due exercise of the faculties they may actually possess, till at last the vital actions become weakened; some of the natural functions, particularly those performed by the stomach and bowels, may be impaired; at which time, should a friend die, or the history of a disease fall in their way, they will immediately fancy themselves affected with the same disorder. Or they may have a hundred and fifty different complaints, and think they experience a thousand strange sensations and unaccountable feelings, till bodily disease is in the end engrafted on the mental. The organic disease acts upon the mind, producing a state which, to say the least of it, is not far from one of insanity. The primary disease may be functional or structural. If the former, the stomach and bowels will in general be found to be the parts at fault; and I have sometimes discovered, on dissection, diseased states of the liver, lungs, kidneys, bladder, heart, blood-vessels, and also of the brain and its membranes."

## HYSTERIA.

Hysteria, or, in common parlance, hysterics, one of the *neuroses*, and a most singular affection, is also to be mentioned as one of the effects of tobacco. Hysteria, although in its original signification an affection belonging exclusively to females, is nevertheless not unfrequently to be found, with all its distinctive features, in the opposite sex. As is well known, it often causes fits of alternate laughing and crying; and at the same time the pitiable subject seems to have a heavy ball in the abdomen, that rises towards the stomach, chest, and neck, producing at the same time a sense of strangulation. There is sometimes partial unconsciousness and convulsions. This, then, a nervous disease, is sometimes caused mainly, or in part, by tobacco. Be it understood, however, that I admit there are many cases of hysteria where the drug has had nothing to do in the matter, it never having been used. All I claim is, that tobacco is *one* of the many causes of this most singular disease.\*

\* No persons are more to be pitied than those who suffer from hysteria. That this statement is true will appear from the following facts:—

“In a late number of the ‘American Journal of Insanity’ we find the following remarks made by Dr. Brigham, one of its editors, and physician of the New York State Lunatic Asylum near Utica. We need hardly add that the doctor is a learned and able man, and well qualified to give opinions on medical subjects. The remarks were made in giving evidence in the case—‘The People v. John Johnson, indicted for the murder of Betsy Bolt,’ tried at Binghamton, May 7th, 1846. On the cross-examination, Dr. B.’s testimony was as follows: ‘Persons subject to hysterics for years have a tendency to insanity; and hysterical women do the most strange things of any class of persons, sane or insane. I speak from my own observation, and history attests its correctness. Hysterical women will deceive their friends, and frequently their physicians, by inventing stories with little if any regard to truth; and will in carrying on the deception submit to painful operations by the physician or surgeon, and I am not prepared to say but that they do in fact deceive themselves. I do not attribute their false statements to moral obliquity, theologically speaking, as the obliquity is produced by disease. They are apparently sincere, and I have never known one to own the deception. It is a diseased state of the nervous system, and I think the subject is irresponsible. [The doctor here enumerated instances where males and females pretended to be strangely affected, and submitted to painful and unpleasant operations; and some of those affected in this manner have succeeded in carrying out the deception so adroitly as to deceive the attending physician, the clergyman, and indeed the whole neighbourhood.] Insane persons often inflict injury upon themselves in order to charge others with the commission of an offence; and cases have occurred where insane persons have admitted themselves to be guilty of crimes committed by others. Hysterical females see visions and dream dreams, that are so vivid that they take them for realities. There is a person at Utica who, a year after he had recovered from his insanity, could not rid himself of the fancies conceived by him when insane. Nervous persons sometimes feign fits in order to obtain medical advice; and when one hysterical person alleges she is affected in a particular manner, another hearing of it is very apt to be exercised in the same way. Hysterical and nervous woman will perform the most marvellous and mysterious things imaginable. They will cut their flesh, and do other things, and with apparent honesty and sincerity charge their commission upon others.’

“*Direct Examination.*—When persons make statements at one time that they forget at another, it is an evidence of a poor memory or a diseased mind. Hysterical fancies and strange delusions are very likely to occur in young females that menstruate, and it is highly probable that they are themselves deceived. The length of time the patient has been subject to hysterics will make no material difference. When any remarkable occurrence takes place in a neighbourhood, and it is much talked over, a nervous female will be apt to dream of it, and after dreaming will mix up facts with what is purely imaginary, and be apparently incapable of separating facts from fancy.’

“If such things are facts—and few men are as competent to judge of matters of this kind as Dr. Brigham—how careful should parents be in the physical training and

In some parts of the world where females make much use of tobacco, hysteria or hysterics, essentially a nervous disease, is found to be very prevalent. It is to be observed, however, that, as a general fact, those persons who use tobacco use also the kindred stimulants, tea and coffee, one or both of them, so that these articles, either of which may cause that disease, produce a portion of the effect caused. I know a pious old lady, who would think it a great insult should any one question her title to being "a good Christian." She uses not only strong tea daily, as often at least as morning, noon, and night, but smokes her pipe even much oftener: and what is the result? She has had for many years hysterics so badly, that every few weeks she gets a notion into her head that she is at the very point of death. She calls her friends about her, to advise and admonish them in the most solemn manner. At one of these times a worthy daughter of hers who well understood how the devil was misleading her, said, "Come, mother, let us go over to Mrs. ——" a neighbour she much loved; "it will be more pleasant for you to die there." Up the old lady jumped and went quickly, although,

education of their daughters! Hysteria is a very common affection at the present day. It is a real disease, and should be treated always as such. But hysterical persons generally get little sympathy from friends or enemies. 'She is only nervous,' is the common expression, as if *nervousness* were not a disease. Nervousness is in fact one of the worst of diseases. Let no one call a hysterical person well. Such a thing cannot be; they are far from it. But we are glad to say the affection is generally curable; perhaps always, when not connected with some other and more formidable disease. Drug-treatment will seldom, if ever, cure it. Bathing, with suitable dieting, exercise, &c., is the means.

Hysterical persons should not marry until they are cured. Once cured, the sooner married the better, provided there are no other obstacles in the way. How many miserable wives there are, who are not only miserable themselves, but make their husbands and others about them a vast deal of trouble in consequence of the diseased state of their nervous system.—*Dr. Shew's Water Cure Journal*, July, 1849.

The subject of the following case was much addicted to the use of tobacco, which no doubt helped to cause his difficulty:—

Some weeks since, being at sea, in the London packet ship *Switzerland*, Captain Knight, about midway between England and the United States I was called up one night, having passed into a pleasant sleep, and was told that one of the passengers, a foreigner, had a very bad fit. His sleeping place was one of confined air. I at once ordered him to be taken and placed on a mattress in the cool fresh air on deck. There were no means by which I could account for his attack at the time. I concluded at once to take, instead of the affusion, the milder and then more convenient mode of giving cold injections. About two quarts of water (fresh), all that could be introduced, were passed into the bowels. This soon brought the patient to his senses. I was told by one of the rude men in the morning that the patient was 'love sick.' Afterwards it appeared that there was some difficulty between him and one of the officers of the ship concerning the fair one in question, the officer wishing, probably, to amuse himself a little with the foreigner. The matter went on, and in two or three days more the patient had another, and another attack. At length he had one much worse than the rest—a genuine hysterical fit (for men, as well as women, sometimes have these symptoms). Soon it was difficult to keep him at all within bounds; so I had him 'manned,' as the sailors term it. A number of them took him upon deck, while others drew a half dozen buckets of water and placed alongside. I threw them one by one quickly over him, he having only a night dress and drawers upon him. The buckets of water dashed upon brought him quickly to a better state. He was then wrapped in blankets (it being late in the evening), his wet dress answering as a wet sheet. In this way he was left until morning. He had no more attacks after this. The old remedy, the dash or affusion with cold water, is incomparably the best that can be used for hysterics, whether in cases of men or of women.—*Water Cure Journal*, Feb., 1847.

as she would have it, she was on the very point of dying. It would be impossible to tell how much of the sin of using tea, coffee, and tobacco, may be excused on the score of ignorance in these old Christians; but certain it is, that since more light has gone abroad on the subject the younger ones will have much to answer for in these things.

#### INSANITY.

Tobacco has been ranked among the causes of insanity. On the great principle that whatever tends seriously to injure the bodily functions must also necessarily impair in a greater or less degree the mental manifestations, tobacco may undoubtedly be reckoned a cause of mental aberration. If tobacco can produce hypochondriasis and hysteria, as we know it does, certainly we may infer that insanity proper may also be caused by its use. On this head, however, I will merely quote the words of a distinguished authority, Dr. Woodward. He observes: "Tobacco is a powerful narcotic agent, and its use is very deleterious to the nervous system, producing tremors, vertigo, faintness, palpitation of the heart, and other serious diseases. That tobacco occasionally produces insanity I am fully confident. Its influence upon the brain and nervous system generally is hardly less than that of alcohol, and, if excessively used, is equally injurious. The young are particularly susceptible to the influence of these narcotics. If a young man becomes intemperate before he is twenty years of age he rarely lives to thirty. If a young man uses tobacco while the system is greatly susceptible to its influence, he will not be likely to escape injurious effects that will be developed sooner or later, and both diminish the enjoyment of life and shorten its period. In our experience in this hospital, tobacco in all its forms is injurious to the insane. It increases excitement of the nervous system in many cases, deranges the stomach, and produces vertigo, tremors, and stupor in others."

Dr. Chapman, of Philadelphia, informed his coadjutor, Dr. Wood, as is stated in the United States Dispensary, "that he has met with several instances of mental disorder closely resembling *delirium tremens* which resulted from its abuse, and which subsided in a few days after it had been abandoned."

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## CHAPTER IV.

### EFFECTS OF TOBACCO—CONTINUED.

Tobacco impairs the natural taste and relish for food, lessens the appetite, and weakens the powers of the stomach.—DR. J. C. WARREN.

It is a mistake to suppose that smoking aids digestion. The very uneasiness which it were desirable to remove is occasioned either by tobacco itself, or by some other similar means. If tobacco facilitates digestion, how comes it that after laying aside the habitual use of it most individuals experience an increase of appetite and of digestive energy, and an accumulation of flesh?—DR. MUSSEY.

### EFFECTS OF TOBACCO ON THE TEETH.

The pernicious effects of tobacco on the teeth are easily proved, although it has been pretended by some that tobacco is a preservative of these useful organs. The delusion grew out of the fact that tobacco

is found sometimes to have the effect of benumbing the nerve of aching teeth. But the teeth of tobacco chewers, who have continued the practice for a considerable length of time, are generally bad, as any one may observe. It was once said in the presence of a clergyman of our acquaintance, that tobacco was good for preserving the teeth, upon which he answered, "That is not true, for on one side my teeth are perfectly good, while on the other side, the one in which I have always kept my cud, there is not a stump left." Query: For what did he use it?

The first and most prominent effect of tobacco upon the teeth is that of softening them. In some instances they become literally worn to the gums, and in others, decay. The mischief is likewise partly caused by indirect effect upon the masticatory organs through the general health, partly by the natural friction of chewing, and partly by the gritty substances the article contains. I know several old men in the country who have from early youth used freely of tobacco in the mode of chewing, and whose teeth are worn quite to the gums, and yet the fangs and roots of the teeth are, in some instances at least, sound. In some of these cases there is also great tremulousness of the nerves, and extreme emaciation of the whole body. Had these individuals not led a country life, spending a great share of their time in the open air, and actively engaged in the healthy duties of farmers, their condition would have been commensurately the worse.

Concerning the fact that the teeth of tobacco-chewers become worn down by the use of tobacco, Dr. Mussey remarks: "I have observed this in the mouths of some scores of individuals in our own communities, and I have also observed the same thing in the teeth of several men belonging to the Seneca and St. Francois tribes of Indians, who, like most of the other North American tribes, are much addicted to the use of this narcotic. In several instances, when the front teeth of the two jaws have shut close, the surfaces of the grinders in the upper and lower jaw, especially where the cud had been kept, did not touch each other, but exhibited a space between them of one-tenth to one-sixth of an inch, showing distinctly the effects of the tobacco, more particularly striking upon those parts to which it had been applied in its most concentrated state."

The injury of tobacco on the teeth then, is, first, by direct contact of the poison acting on the vitality of the part; second, through the effect of attrition in wearing them down; and third, indirectly by its pernicious effect upon the fluids of the system and the general health.\*

The *gums* are, in many cases, made to recede from the teeth by the use of tobacco; and when this effect has once taken place, there is no possible means of making them adhere again. Persons often lose teeth

\* Concerning the effects of tobacco on the teeth, Dr. Alcott observes: "But granting the most which can be claimed for tobacco in the way of preserving teeth—grant that it benumbs the nerves, and thus, in many instances, prevents pain—grant even that it occasionally precludes all other decay, except the premature wearing out of which I have spoken—still the general truth will remain, that it injures the gums and the lining membrane of the mouth, stomach, and alimentary canal generally, and, in fact, of the lungs also; and thus not only prepares the way for various diseases (to be mentioned hereafter), but spoils the beauty, injures the soundness, and hastens the decay of these organs. It was no doubt the intention of the Creator that the teeth should last as long as their owner. Yet, in how few of a thousand tobacco-chewers, or smokers, or snuff-takers is this the result!"

in a perfectly sound state, merely by having the gums loose about them. Dr. J. C. Warren, of Boston, judiciously observes, "that while tobacco can have no material effect in preserving the bony substance of the teeth, it has a sad influence on their vitality, by impairing the healthy action of the gums."

## THE MOUTH.

It cannot be affirmed that tobacco has any specific effect in causing diseases of the mouth, but that it injures this part as any other powerful irritant might do cannot be questioned. The gums, as well as the tongue and lips, are very subject to that serious and painful affection, cancer. Dr. Warren, before quoted, is as good authority in surgery as can be referred to. He observes: "For more than twenty years back I have been in the habit of inquiring of patients who came to me with cancers of these parts (the gums, tongue, and lips), whether they used tobacco, and if so, whether by chewing or smoking. If they have answered in the negative as to the first question, I can truly say that, to the best of my belief, such cases of exemption are exceptions to a general rule. When, as is usually the case, one side of the tongue is affected with ulcerated cancer, the tobacco has been habitually retained in contact with this part. The irritation of a cigar, or even from a tobacco pipe, frequently precedes cancer of the lip. The lower lip is more commonly affected by cancer than the upper, in consequence of the irritation produced on this part by acrid substances from the mouth; and among such substances what is more likely to cause a morbid irritation, terminating in disease, than the frequent application of tobacco?"

I believe cancers, severe ulcers, and tumours in and about the mouth will be found much more common among men than women. Since the former use tobacco much more generally than the latter, may not this be a cause!

## THE TASTE.

That tobacco injures the taste—I mean in a physiological sense—is almost too notorious to need mention. Those especially who chew are injured in this respect. Every one must have observed the dull and almost obliterated taste of the tobacco-chewer. Plain and wholesome food is utterly insipid to him. He must have everything seasoned in the highest manner, and even then he often wonders that the food is so insipid. Luscious fruits, which are so pleasant to the undepraved palate, the tobacco chewer loses all relish for, and often entirely abandons their use. And the worst part of this whole matter is, that tobacco, by blunting the keen sensibilities of the parts concerned, leads men to an almost ungovernable desire for strong drink. And there is another evil, which is, that when inobriates, who have been users of tobacco, reform, they practise still greater excess in the use of the abominable weed, to answer in some degree the cravings for alcoholic stimulus. The bad habit of using tobacco, then, works evil in two ways: first, to cause the individual to desire a stronger stimulus; and second, when the stronger stimulus is discontinued, to take more and more of the tobacco, in order as far as may be to make up for that stimulus.\*

\* Dr. Adam Clarke remarked that "so inseparable an attendant is drinking on smoking, that in some places the same word expresses both: thus *peend* in the Bengalee language signifies to *drink* and to *smoke*. . . . It is with pain of heart that



## THE VOICE.

Public speakers not unfrequently make a liberal use of tobacco, sometimes by smoking, sometimes by chewing, and sometimes by both. Some clergymen find themselves unable to preach unless the pipe or quid has been resorted to just before commencing the pulpit exercises. They feel a troublesome dryness of the mouth and throat. That these individuals are sincere in their belief concerning the good effects of tobacco in their cases there can be no doubt. They are as honest as the old women are who cure their headaches with an extra "good strong cup,"—when they assert that tea is one of the best things in the world to cure headache with; and the latter are not more mistaken than the former. This dryness and parched condition of the throat are of themselves symptoms of a diseased condition of the part. At first the habit of using tobacco was commenced foolishly, or perhaps by the advice of some physician, who knew no more of the true science of healing than the man who put the cart before the horse. Why cannot these would-be wise men of the profession, who have so often recommended tobacco for the difficulties of the throat, remember *that the constant and habitual use of any medicine, however good, will with indubitable certainty wear itself out; and that the effects which at first appeared to be good become ultimately, in all cases of long-continued use, bad.* This axiom, be it remembered, holds good in the use of all drugs. What were at first the symptoms of cure become, by long-continued use, the symptoms of disease.

There are cases in which this tendency to dryness of the throat in public speaking would, without the use of tobacco, become so severe, and the hoarseness so great, that it would be very difficult to proceed in the exercise. However, if persons will persevere, and rid themselves wholly of the noxious drug, they will find that within a reasonable time—a few weeks, or at most months—the unpleasant symptoms will pass off.

I am obliged to say that I have known several who through their immoderate attachment to the pipe have become mere sots." George Sullivan said "that the tobacco pipe excites a demand for an extraordinary quantity of some beverage to supply the waste of glandular secretion, in a proportion to the expense of saliva, and ardent spirits are the common substitutes; and the smoker is often reduced to a state of dram-drinking, and finishes his life as a sot." And the learned and sagacious Dr. Rush remarked "that smoking and chewing tobacco, by rendering water and other simple liquors insipid to the taste, dispose very much to the stronger stimulus of ardent spirits," and that "hence the practice of smoking cigars has been followed by the use of brandy and water as a common drink." Also some years ago a writer in the "Genius of Temperance" (American) said that his practice of smoking and chewing tobacco "produced a continual thirst for stimulating drinks; and that this tormenting thirst "led him to the habit of drinking ale, porter, brandy, and other kinds of spirits, even to the extent, at times, of partial intoxication;" and then he added: "I have reformed; and after I had subdued this appetite for tobacco I lost all desire for stimulating drinks." The inhabitants of Northern Siberia, male and female, we are told, swallow the smoke of tobacco for the purpose of bringing on a stupor as pleasurable as that of drunkenness to the spirit-drinker. But this is what the good and Christian lovers of tobacco would call the intemperate use of the delectable weed—the good thing God has given with which to soothe the heart. But as in the case of spirit-drinking, it would, we think, be a somewhat puzzling question in the science of morality to determine precisely how many quids, how many pipes-full, how many "pinches," and how many cigars—in short, what precise quantity would in any given case come under the head of *Christian moderation.*

The senses of *sight, smell, and hearing* are also injured by the use of tobacco.

Especially will this hold true if at the same time other proper means be used to invigorate the general system and its local parts; such as exercise daily in the open air, tepid, cool, or cold bathing, according to the season of the year and the individual's strength; frequently washing and well rubbing the throat with the hand wet in cold water, gargling with the same, and the use of water as the only drink; these and the like means, in connection with complete and entire abstinence from tobacco, are the natural and best means that can be resorted to in such cases.

It will be inferred, then, from these remarks, that tobacco, like tea, coffee, and all stimulants that tend to inflame the fauces, throat, and other parts concerned in speech, is injurious to the voice.

Since writing the above paragraphs I have found, in an excellent article on tobacco in the *London Medical Gazette*, published some months ago, by Dr. Thomas Laycock, the following judicious observations: "The first and simplest morbid result of excessive smoking is an inflammatory condition of the mucous membrane of the lip and tongue, and this sometimes ends in the separation of the epithelium. Then the tonsils and pharynx (upper part of the throat) suffer, the mucous membrane becoming dry and congested. If the throat be examined it will be observed to be slightly swollen, with congested veins meandering over the surface, and here and there a streak of mucus. The inflammatory action also extends upward into the posterior nares (openings to the nostrils), and the smoker feels from time to time a discharge of mucus from the upper part of the pharynx, in consequence of the secretion from the mucous membrane of the nares collecting within them. The irritation will also pass to the conjunctiva (and I am inclined to think from the nares, and not by the direct application of smoke to the eye), and the results are heat, slight redness, lachrymation (running of tears), and a peculiar spasmodic action of the orbicularis muscle of the eye experienced, together with an intolerance of light on awakening in the morning."

"Tobacco, when used in the form of snuff," says Dr. Rush,\* "seldom fails of impairing the voice, by obstructing the air." "The truth of this remark, though made about half a century ago, we see verified in the case of thousands of public speakers. It is not the snuff-taker alone, however, who injures his voice by tobacco, though the injury which he sustains may be most immediate and severe. By the dryness of the nasal membrane, which chewing and smoking produce, these vile habits have a similar effect. The smoke of the tobacco contains many fine particles of the weed itself, which lodge in the passages. These particles exert a destructive influence on the nerves of every part they touch. The smoke itself also contains a great portion of the deadly spirit or power of the tobacco, and operates on the nerves of every part it touches in the same destructive manner. Besides this deadly influence on the nerves, the acrid power of the tobacco operates injuriously on the muscular tissues and delicate fibres of the organs of the voice."†

\* It is, I presume, generally known that Dr. Rush gave perhaps more attention to investigations concerning the human voice than any other physician who has ever lived. His writings on this subject are probably the best extant.

† Dr. Aleott.

## THE THROAT.

It must be evident that any agent which is known to cause serious diseases of the gums and mouth, and to impair materially the voice, must also be detrimental to the throat. Beyond doubt chronic throat disease, which is so prevalent at this day, is often caused in great part by the use of tobacco. This arises not from any specific nature of the drug, but first, from its effects on the mouth and throat locally; second and mainly, from its pernicious effects on the general health.

## CHAPTER VII.

## EFFECTS OF TOBACCO—CONTINUED.

Tobacco, even when used in moderation, may cause dyspepsia, headache, tremors, vertigo.—Dr. RUSH.

Who can see groups of boys of six or eight years old in our streets smoking cigars, without anticipating such a deterioration of our posterity, in health and character, as can scarcely be contemplated, even at this distance, without pain and horror?—Dr. RUSH.

## CONSUMPTION.

IN reference to the effects of tobacco on the respiratory organs, it becomes a question of great importance whether it has any effect in causing that dreadful disease—consumption, a malady that has become so common in the United States as to be termed the *American* disease—a malady which, when firmly seated upon the individual, can rarely if ever be cured. Our country is becoming more and more settled, and should therefore, other things being equal, become also more healthy. There can, however, be no doubt that within the last fourth of a century this disease has increased in the United States. Since railroads, canals, steam-boats, ships, and other means of conveying the so-called luxuries of life from the different parts of the world to almost every nook and corner of our wide country have been so much improved, the dietetic and other habits of our people have become much changed. Thus it is doubtless in part that consumption has within that time become more frightful in its ravages than when a state of greater simplicity existed.

As to the use of tobacco, I am well aware it will be objected that females, who, in our country, seldom use the article, are yet very subject to consumption. But the disease is hereditary in a large proportion of cases. In that case, the effect of unfriendly agents would be only the more rapidly to develop the disease. There being no public registry of births and deaths in most parts of the United States, it would be difficult to form an opinion as to whether males or females suffer most from this disease.

But it cannot be doubted that tobacco has an influence in many cases in causing and developing consumption. While the narcotic effect of the plant is exerted on the nervous system, we know that inflammation and ulceration of the throat is often found in cases of those who smoke freely. A short, hacking cough is also to be observed, attended sometimes with the bringing up dark, grumous blood. On the whole, no important part of the system is so liable to disease as that delicate structure, the lungs. I have known of some cases, and heard of numbers

of others, in which tobacco has been at least a prominent cause of developing consumption. This has been proved true from the fact that on discontinuing the use of the drug a great amelioration of the symptoms has taken place, and in some cases a complete cure has been thus effected.

It will be understood, then, I do not affirm that tobacco is the principal cause of the fearful ravages of consumption in our country. The causes are many and complex, and need deep study and investigation to enable us to arrive at accuracy of results. Could we know the whole truth in the matter we should doubtless find that, besides a variety of debilitating habits, the use of stimulants and narcotics, such as wine, spirits, tea, coffee, and tobacco, have had much to do in causing and developing this most stealthy and insidious disease.

Any agent whatever that poisons the system, however gradually, may cause ulceration and destruction of the lungs.

#### PALPITATION OF THE HEART.

A nervous palpitation of the heart is often caused by the use of tobacco. This effect may be produced either by the action of the narcotic on the nervous system, or indirectly through its effect upon the stomach, which in certain diseased states, acts by sympathy on the heart, producing the palpitation. I am certain that any physician who will carefully observe a sufficient number of cases of palpitation will find that I am correct in this position. Many a man has been treated a long time for what was termed a *heart disease*, and without any good effect whatever. In many of these cases, the great and most important thing necessary has been to *abstain from all use of tobacco*. But here I must observe, also, that the use of strong tea and coffee very often produces the same results; so that, if the disease had been caused principally by tobacco at first, and if this were discontinued, and not the former articles, the user of tobacco would, in many instances, fail of obtaining a cure. Avoid tobacco, tea, and coffee—in short, all narcotics; this is the rule,—a practice which, followed faithfully and perseveringly, will in every case be attended with the best results.

#### DIFFICULTY OF BREATHING.

The use of tobacco, besides tending to cause and develop consumption, has sometimes the effect of impairing the function of respiration. I think anyone who will observe closely, and notice those persons who have been addicted to smoking for fifteen or twenty years, and in many cases a less time, will perceive that the respiratory function does not go on as perfectly as it ought. There is a kind of *wheeziness* of the breathing; the man is *short-winded*, so to say. I have seen, in numbers of instances, this difficulty exhibited in a remarkable degree. A great smoker is never a great pedestrian.

There is also the sudden staring and choking sensation, with a feeling of weight and great oppression about the heart, with, at the same time, an extreme difficulty in taking in the breath. That tobacco is the principal cause of these difficulties has been proved, as when the article is discontinued the symptoms soon vanish.

It is to be observed, however, in this connection, that both tea and coffee, used freely, do in some cases cause these last-mentioned nervous symptoms of breathing and oppression about the heart. Any narcotic,

## INDIGESTION.

persevered in, may bring about these results. It is the effect of the poison upon the nervous system generally in these cases.

A case is quoted by Rev. Mr. Lane, in "Mysteries of Tobacco," from Dr. Clarke, as follows: "A person of my acquaintance, who had been an immoderate snuff-taker for upwards of forty years, was frequently afflicted with a sudden suppression of breathing occasioned by a paralytic state of the muscles which serve for respiration. The only relief she got in such cases was from a cup of cold water poured down her throat. This became so necessary to her, that she could never venture to attend even a place of public worship without having a small vessel of water with her, and a friend at hand to administer it. At last she abandoned the snuff-box; the muscles re-acquired their proper tone, and in a short time after she was entirely cured of her disorder, which had been occasioned solely by her attachment to her snuff-box."

## INDIGESTION.

In the country parts of the United States we often find persons who tell us it is absolutely necessary for them to use tobacco: they were in the habit of "*spitting up their food*," for which the doctor told them to commence taking it. The oracle of the doctor is the veriest law and gospel whenever it agrees with the propensities of patients. But I have known some well-meaning, pious people brought into the habit in this way; and when once it is fixed upon them, not one of a hundred has the power to leave it off. That there is such an effect of tobacco in certain cases of indigestion (spitting up food) there is no doubt. It happens in this wise: the stomach has been worried and goaded habitually with too much and improper kinds of aliment; perhaps the brain has been for a long time subjected to too much excitement, which is always visited to a greater or less extent upon the stomach: by a severe attack of sickness with imprudent dosing, or perhaps by dosing in a smaller and more continued way, the stomach has become so weak that often a part of the food is rejected.

Now in such cases the symptom is a good one rather than otherwise. If too much is given for the weak and debilitated stomach to do, it is better if it have power to eject a part of its load. It can then go on more favourably in the fulfilment of its difficult task. But the tobacco is taken, the organ is stupefied into the submission of retaining its load. Thus the very symptom which patient and physician are combating in such a case is a good one, and ought not to be interfered with, except that less food should be taken. But such advice physicians know too well is never obeyed, nor are people apt to pay for a thing so simple as that. Hence it is that physicians often find it necessary to advise differently from that which they know would be in reality the best.

As to the symptom in question, I say, unhesitatingly, it is better not to interfere with it by administering drugs, and especially a drug that fixes a habit so strong and ungovernable upon the system as the use of tobacco. Use the natural means of invigorating the *whole* system, and thus the weak part will become strengthened: by no other means can it be. It is easy to give stimulants which will delude the individual for the time; but harm is the only and inevitable result from such practice; and in no case should the stomach be given too much to do.

Among the great and almost innumerable family of symptoms belonging to indigestion, there is none that may not be caused by tobacco. Spitting up food, pain in the stomach, acidity, heartburn, loss of appetite, disrelish for all simple articles of food and drink, eructations, flatulency, constipation, constipation alternating with diarrhœa, palpitation, tremulousness, fulness in the head, giddiness, stupor, depression of spirits, weakness of the eyes, wasting of the flesh (but in some cases the opposite extreme), derangement of the liver, pallor of the countenance and sallowness—such are some among the multitude of symptoms that are known to be caused by the use of this detestable drug.

## CONSTIPATION.

Some persons who suffer from constipation smoke in the morning for the purpose of causing the bowels to act. The cathartic effect of tobacco is one of its prominent results when taken in considerable quantity. And it is also true, that with many persons in whom there is a tendency to torpor of the bowels the smoking of a cigar will bring about this result. Whether the effect be a good one let us inquire.

How does a cathartic or aperient substance act thus to cause the peristaltic motion of the colon or lower bowel? By its action, indirectly, as an undue and unnatural stimulant to the part. This is the case with all such substances; and who does not know that the habitual use of any article of the kind never cures the difficulty—only in the end makes it worse? Look at the immense amount of pill-taking in the United States, the most pill-gullible and pill-accursed country on the face of the earth. What an amount of mischief is thus done to the health, *by keeping up a mode of drugging the system for evils which the drug appeared at first to remedy!* Pills never yet cured a case of constipation, and never can; the same also is true of tobacco.

## REDUCING THE FLESH.

Tobacco has a tendency generally to reduce the flesh; so much so that many persons are made too lean by its use. There is not only leanness, and the usual symptoms of dyspepsia, but a dark, unhealthy sallowness of the complexion. On the other hand, we sometimes, though not often, find very fat persons who use liberally of the weed. Hence the same causes may produce apparently opposite results.\* That state of the system is also one of disease.

\* In those cases where it becomes necessary to devise means of counteracting the too great tendency to fleshiness there are much better means that may be resorted to, better and more effectual than tobacco would be, even if it exerted no ill effect upon the system. Let persons use pure soft water as the sole drink; practice daily bathing, exercise in the open air, and adopt a diet regulated upon physiological principles, such as brown bread, potatoes, fruit, milk, and water. Then there will not be too much flesh. And such means, moreover, while they are the most effectual for accomplishing the desired object, are at the same time peculiarly favourable in promoting the health, strength, and permanent well-being of the whole system. It is not so with the tobacco process, vinegar-drinking, and things of the like kind.

## APPENDIX.

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Let it be understood that no creature, when all the organs are performing their natural offices, will either spit or throw off the secretions of the mouth.

Tobacco destroys the exquisite flavour of taste.

Farmers who neglect their calves, and permit them to go lousy, will tell you that a decoction of tobacco is good to sprinkle along the back, to destroy the vermin ; but care should be observed in not using it too freely, for if so, it will destroy the calf also.

Some contend that smoking preserves the teeth from decomposition ; and assert, as a reason, that hams smoked will be preserved longer than without its agency ; but whoever should attempt to smoke their hogs while *living*, would be liable to be taken up and sent to the lunatic asylum.

Tobacco causes the gums to recede from the teeth, consequently loosening them.

To show the more specific effects of tobacco on animal life, I will give the following facts :—

I took common tobacco, and soaked it in water about the temperature of the blood, and after procuring a number of frogs, applied a portion of the juice where the hind legs are connected with the body. The first leaps were violent and two or three feet in length ; but the succeeding leaps grew shorter and shorter until the muscles became so weak that the animals were unable to draw the legs up to jump again. They remained in that position until signs of life were invisible, and on the third day the animals began to decompose.

Others had it applied on the back and legs, and in less than half an hour life was not perceptible. Those which had it applied in the mouth vomited, and soon died. It was tried on mice with similar results.

A poor farmer (as related to me recently), with but one cow and horse, found them covered with lice. A benevolent friend gave him a bottle of the juice of tobacco, as he had heard that it would destroy the lice at once. The owner thanked him for the article, and poured it along the back and tail of the horse and cow, according to direction. They soon showed signs of weakness, and lay down : one survived six hours, and the other about twelve.

A parent applied tobacco to the head of his son, in order to destroy the inhabitants of that region. The tobacco made the child sick, and stopped the regular secretions for a time, which marked his nails and teeth. The latter marks he will carry through life.

Some sheep had it used on them for destroying ticks ; it marked that portion of the wool formed during the time the secretions were interrupted. The marks could be seen with a magnifying glass, and by taking hold of each end of the fibres, they would first break where the marks were.

An individual residing in the city of New York, who trains and speculates in dogs for a livelihood, informed me that he thought one of his most valuable dogs did not appear very well, and concluded he would give him an emetic. Consequently, he soaked a cigar in order to obtain the juice for the above purpose ; but before the dog had had the dose on his stomach one minute he was dead.—JOHN BURDELL, *No. 2, Union Place, Union Square, New York.*

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Persons inclined to indulge in smoking will allow any trifling excuse to stand against the best-grounded arguments. The half consent of a medical man, who has not the hardihood to deny indulgences to his patient—the recommendation of any dirty, habitual old smoker—the slightest pain in the head or eructation of wind from the stomach, for which there are a thousand better remedies—*any* of these is sufficient to induce him to adopt the dirty practice, in defiance of the best proofs to the contrary. Once led away, one bad habit leads to another, until he or she becomes a disgrace to society. A very eccentric surgeon who resided near Manchester (now dead), was applied to by a dirty old woman, who smelled strongly of gin, and had a short black pipe in her mouth, to be cured of the wind on her stomach ; and while telling her tale, she drew forth a tin box, worn very bright, and took an enormous pinch of snuff. The medical gentleman was so disgusted with his applicant, that he told her, **disease arising from one bad habit might possibly be cured by knocking the cause on**

the head, but, in her case, there was no chance, her bad habits were so numerous; the only thing he thought she could do was to adopt another to complete the list, which was chewing. Some individuals assert that it would be injurious to aged and habitual smokers to give up the custom suddenly, but what is the fact? Thousands of aged persons, long accustomed to smoking, are annually sent to our prisons and houses of correction, where they are suddenly deprived of tobacco, and yet no bad consequences ensue: they return to society, after their period of confinement, improved in appearance, and evidently better in health.

It is a very temporary gratification, while its attendant evils are great and numerous; polluting the breath, blackening the teeth, wasting the saliva, injuring the complexion, producing indigestion, emaciation, and a host of nervous disorders.

*Snuffing* is a degree worse than smoking. In addition to the adulterations already mentioned in the manufacture of tobacco, it requires more for the formation of snuff. It is made to undergo various adulterations: salt is sometimes mixed with it to increase its weight, and to give it pungency; and for this purpose urine is also added to it, in order to obtain the muriate of ammonia which it contains. Glass, finely powdered, is also employed, to give a greater degree of acrimony, and to stimulate the lining membrane of the nostrils, and is, by some manufacturers, very extensively used, particularly in the Welsh snuffs.

Snuffing is a more sociable custom. It has been considered on the continent as an easy and gentlemanly mode of introducing yourself to a stranger. It is said to be of the deepest importance to the physician, as it gives him an opportunity, when asked a question which requires momentary thought, to deliberate during the operation of taking a pinch of snuff; and, on this account, it is said to have been recommended by Dr. Ratcliffe to his brethren. It fills up some vacant time, and somebody has been at the trouble of calculating how many hours in the week, how many days in the year, are occupied by inveterate snuff-takers, which cannot be less than a certain number of seconds employed at each pinch. It is useful in keeping those who are inclined to fall asleep awake. By some it is said to increase the mental powers, by others to diminish them. The great Frederick of Prussia had his pockets lined with tin to retain it, and they were generally filled. Those whose intellects are disordered covet it with the most remarkable anxiety, and are said to form a personal attachment to a donor.\* The objections raised to it are, that it is an unseemly habit, that the linen becomes soiled by it, and the person almost impregnated with the odour; even the apartments are rendered unclean, and the atmosphere is loaded with particles which are deleterious to some persons. It vitiates the organs of smell, it taints the breath, affects the sight, the respiration, and the digestion.

It is generally allowed that the disease which terminated the life of Napoleon Bonaparte was brought on by excessive snuffing.

Snuff keeps many of the females (engaged in lace-making in the neighbourhood of Newport Pagnell) under the continued influence of hysteria, and gives them an early stamp of age; at thirty a snuff-taker looks as if forty years old. It is the sole cause of a variety of dyspepsia, of which I have witnessed a vast number of instances, the symptoms being a painful sensation of weight at the stomach; of a hard, undigested substance pressing, as it were, upon a tender part of the stomach, which sensation is for the time relieved by taking food; remarkable depression of spirits, everything seen through a medium of gloom and distrust, and tremors of the nerves.

Snuffing has a strong tendency to encourage a determination of blood to the head, giving rise to apoplexy, and on this account plethoric subjects should never indulge in such habits. If it were attended with no other inconvenience, the black, loathsome discharge from the nose, the inflamed appearance of the nose, the soiled clothes and linen, the expense, and general disagreeable features of a snuffer, ought to deter every person from it. Let it never be forgotten, too, that you are constantly in danger of exciting inflammation in the membranes of the nose, situated within the sixteenth part of an inch of the brain itself, where the slightest inflammatory action proves fatal.

*Chewing.*—This is the worst manner for the health in which tobacco can be used. The waste of saliva is greater than in smoking, and the derangement of the digestive organs more severe. All confirmed chewers are more or less subject to long-standing diseases of the stomach and liver.

Tobacco is closely allied to intoxicating liquors, and its votaries are neither more nor less than a species of drunkards; at least it produces the same effects as inebriety, and is attended by the same fearful results.

\* Snuff-takers form a large portion of the inmates of all lunatic asylums.



Can any man justify himself in the use of this poisonous plant, in opposition to the evidence I have brought before you? Will he still willingly be a slave to his pipe, box, and quid? To what does this evidence amount? *That tobacco is an active poison*—that its use is productive of the most distressing and fatal diseases. As a medicine, little to be relied on, and very seldom necessary. That, when used, its effects are so very uncertain and dangerous, that none but medical men should superintend its use. Thus, you will perceive, it would be as reasonable to make our well-known and most deadly poisons articles of common use, as to persevere in the use of tobacco.

It is true the injury on the constitution of man, by the common mode of using it, is not perceived at once; and it is difficult to persuade the lover of tobacco of its bad tendency. But a series of complicated chronic disorders creep on him apace, his life becomes insupportable, and he sinks into a premature grave. *But tell his friends* around his last resting-place that tobacco had hastened the catastrophe, and they will tell you of some hard iron constitution who had smoked all his life, and lived to a very old age. The very individual quoted, however, is often a walking mass of chronic disease, a magazine of filth, and a fac-simile of human wretchedness, of sallow, cadaverous countenance, with scarce a ray of hope imprinted upon it. It is our duty to do all we can to prevent *man* from rushing to his own destruction—the laws of God require it from every one of us. Then not only shun tobacco yourselves, but instil that doctrine into others; for, rest assured, should the constitution hold up even against this evil, the *drinking system*, to which it leads, is sure to put the last nail into the coffin.

Governor Sullivan declares “that tobacco excites a demand for a strongly stimulating beverage; thus the tobacco consumer begins with smoking, but *dies a sot!*”

Dr. Rush states “that smoking and chewing render simple fluids insipid to the taste; hence the anxiety to have the strongest spirits; hence brandy, which formerly was rarely used, is now the most common drink of cigar smokers.” But we are told that many smoke, chew, and snuff without being sots. There may be many, but when compared to the number of consumers, they are but very few. I dare assert, if a person tells me that he has smoked, snuffed, or chewed long, *that, if he is not a drinker, he soon will be*; and I dare be bound by that assertion in ninety-five cases out of one hundred.

I have already proved this disgusting custom a source of great mortality. I cannot conceive the public would be so mad in its use, *only under the impression* that it is not dangerous, and may be of use for some fancied or real disease they may labour under. So *insidious* are the effects of this plant, and so *insensible* have the community been to its dangers, that very few have regarded the use of tobacco as the cause of swelling the bills of mortality. But, however startling, *it is nevertheless true*, that vast multitudes are carried to the grave every year by it alone!

Dr. Salmon says, “more people have died of apoplexy since the use of snuff in one year, than have died of that disease in a hundred years before.” Almost every one I have known die of late of that dreadful disease were inveterate snuffers. What, then, ought to be done? What can be done? What must be done? If this manufactured narcotic be ruinous to the health, constitution, and intellect; if it occasion an amazing waste of property, a multitude of deaths, something ought to be done, and it ought to be done immediately. Half measures—that is, moderate use of tobacco and snuff—would be as useless in banishing the evil, as moderate drinking that of the drinking system. No! nothing but an entire disuse of the dirty weed can ever annihilate this wretched incubus that hangs on society to such an extent.

*These habits are useless.*—To the consumer no benefit results; but much disease, sorrow, and pain. It is perfectly contradictory to the manners of a gentleman—renders every person pitifully ludicrous, and entails upon him bad habits.

*They are expensive habits.*—A very common smoker will expend two or three pounds per annum. An average of three or four cigars a day, amounts to ten or twelve pounds per annum. And all this goes for smoke and spittle. Men preach and talk of benevolence and charity, but expend more in smoking and snuffing every year than in either of the foregoing praiseworthy objects.

*They are growing habits.*—I have said enough to convince any man that the habit, once begun, there is no limit to its extent, but with the termination of life.

*It is an offensive habit.*—It is offensive to the eye and nose. Ladies cordially hate it. Every good housekeeper dislikes to have her rooms impregnated with the smell of tobacco smoke. The indelicate accompaniments of smoking and chewing are an annoyance to every house. If smokers and chewers only knew the extent of

their offensiveness to others, they would soon give up the practice. If they heard half the remarks made on them behind their backs, by even those whom they suppose their best friends, they would at once decline it.

*It is an injurious habit.*—How many youths can I recollect in my time that thought themselves men, when they could master a cigar and drink a glass of brandy and water? But where are they now? Peopling the grave-yard! or victims to consumption, liver complaints, apoplexy, and such like diseases; and not a few within the walls of a lunatic hospital.—*From a Letter by CHARLES CLAY, M.D., of Manchester, England.*

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There are a few facts which I would now state generally, and which appear as secondary results of smoking. Constipation and hæmorrhoids are often experienced by inveterate smokers. Ache of the face I have observed to be excited and kept up by the habit, and to disappear with the discontinuance of the latter. Blackness of the teeth and gum-boils are not uncommon results. There is also a sallow paleness of the complexion, an irresoluteness of disposition, a want of life and energy, to be observed occasionally in inveterate smokers, who are content with smoking—that is to say, who do not drink. I have suspected also that it has induced pulmonary phthisis. It is thought that the sexual energy is impaired by the habit, but on this point I have no facts to detail.—T. LAYCOCK, M.D. *London Medical Gazette.*

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Some time since, I was invited to address the members of a Lyceum, not a thousand miles from Boston. As no subject was assigned me, I wrote to the proper officers to know what they desired. They hesitated—indeed, they never did inform me officially. Privately, however, I was informed by two or three leading men of the Lyceum that they wished me to hit off tobacco. Our boys, said they, all over town, as soon as they are knee high, begin to smoke; and we greatly fear they shelter themselves under the authority of some of our great men, who also smoke. I gave the lecture, and hit off tobacco as well as I could. But judge of my surprise when I found I had been hitting off the Rev. Dr. —, who was the oldest and principal offender. The good doctor apologised—said he had been advised many years before, by medical men, to use tobacco for the “stomach’s sake, and other infirmities,” and had unawares become enslaved to it. I trust he has since broken off the habit; but the boys and young men have not in every instance done so.

Tobacco smoking feeds the love of strong drink in two ways. First, by creating that morbid thirst already spoken of; secondly, by impairing the appetite for food, and indirectly encouraging him who uses it to seek for that strength which God should give him in the use of extra stimulus.—DR. WM. A. ALCOTT. *Massachusetts (Worcester), Cataract.*

In my early youth I was addicted to the use of tobacco in two of its mysteries—smoking and chewing. I was warned by a medical friend of the pernicious operation of this habit upon the stomach and the nerves; and the advice of the physician was fortified by the results of my own experience. More than thirty years have passed away since I deliberately renounced the use of tobacco in all its forms. Though the resolution was not carried into execution without a struggle, yet in the space of three or four months I ceased to feel it as a privation.

I have often wished that every individual of the human race afflicted with this artificial passion could prevail upon himself to try but for three months the experiment which I have made; I feel sure that it would turn every acre of tobacco land into a wheat-field, and add five years of longevity to the average of human life.—*Letter of John Quincy Adams to Rev. Dr. Cox.*

I have some slight personal knowledge of the effects of this poisonous and disgusting weed. When about twelve years old, on seeing gentlemen use tobacco I was anxious to become a gentleman too, and that as speedily as possible. So I purchased a yard of what was called the *pigtail*, and commenced chewing it, as I walked, or rather strutted, through the streets of Albany. I had not walked over a mile before I became so deadly sick that I crept under a shed, where I remained several hours, before I could regain strength sufficient to return home. I made a subsequent attempt to become a gentleman on cigars, but was equally unsuccessful.

I look upon the use of tobacco, in health, exactly in the same light, in a moral point of view, as I do upon the use of alcoholic poisons. And I have no more doubt that even what is called the moderate use of tobacco shortens life than I have that the moderate use of rum shortens life.—*Delavan’s Letter to the Rev. Mr. Lane.*

I am happy to hear that you are about to publish a work on the deleterious effects of tobacco. I have had some experience myself of its effects, having suffered from it more than thirty years. I was, while a boy, induced to adopt the use of this vile narcotic because it was considered manly to do so. Immediate and distressing sickness was the consequence of my first attempt. Custom gradually diminished this unpleasant effect, and the use ultimately became habitual and pleasurable. But I was thereafter occasionally visited with nausea, faintness, heartburn, and a feeling of lassitude, especially in the morning, which continued until I could obtain the supposed restorative from my tobacco box. Years passed on before I became convinced that the ills I suffered were to a great extent owing to tobacco. But I did so become convinced, and resolutely determined to discontinue its use.

This caused me no inconsiderable suffering for a time; but this suffering gradually disappeared, and with its disappearance my previous ailments also disappeared; since which I have enjoyed greatly improved health, till attacked by inflammatory rheumatism, about a year and a half ago. From this attack, though seventy-five years old, I am now, through the blessing of God, by the application of cold water and a vegetable diet, gradually recovering my health, and to some extent my activity.

Such has been my own experience; and I may add that, since being connected with Union College, I have observed the deleterious effects of tobacco on others, especially on the youth entrusted to my care. The lives of some and the healths of many have been destroyed by persisting, in despite of counsels, in the use of this poisonous narcotic, which, next to intoxicating liquors, is in my opinion more destructive to the health of the youth in our country than any other agent. ELIPHALETT NOTT.

Having travelled extensively through all parts of the country for a number of years, I have come in contact with every variety of society and diversity of circumstances, and have observed the peculiar effect of different habits on the minds of persons who have indulged in them; and also what classes of persons are the most addicted to various kinds of habits. I find that the most wicked and abandoned individuals in the community use tobacco; that boys and young men who are becoming more and more depraved—that low, dissolute, profane men, idlers engaged in amusements alone, night-walkers, theatre-goers, gamblers, and licentious persons, are almost invariably chewers and smokers.

Believing, as I do, that tobacco produces a disastrous effect on the digestive powers and nervous system, tending to weaken one and derange the other; that the blood is rendered thereby impure and disturbed in circulation; that the secretions become irregular and shamefully wasted, by the constant loss of saliva from the mouth, I have taken particular pains to inquire of those who use tobacco the individual effect that it produces. The almost universal reply is, that it not only does them no good, but a positive injury. Very rarely, if ever, am I told that the use of tobacco promotes health, or removes any bodily obstructions or ailments. Tobacco is truly an enemy to the constitution.

Its effects vary in different constitutions. Those persons who have a predominance of the nervous temperament, with a limited degree of the vital, are the greatest sufferers. Where there is but little nervous power or susceptibility, with a great development of the animal forces, the effects are slower and less perceptible. In attempting to induce persons to reform from its use, I find that it is vastly more difficult for them to do so than to give up the use of ardent spirits. Many have *delirium tremens* from the use of tobacco; the minds of others are so much unbalanced, that they become entirely unfit for business till they have smoked three or four cigars. An editor once told me that he was utterly unable to hold his pen steady, or to think out his editorials, until he had smoked several cigars; and the more he smoked, the more was his habit confirmed.

Many ministers used to be in the same predicament in writing their sermons. Nervous women who use it are very apt to scold. Tobacco benumbs the affections and moral feelings, and renders love a mere passion. I knew a man who married a fine woman. At first he was very affectionate, his moral feelings were active, and for a time he studied for the ministry; but imbibing the habits of chewing and smoking, he became less pious and affectionate to his wife, and by the time that he smoked thirty cigars per day, he could swear like a pirate, and abuse his wife shamefully. Not being able to endure his treatment any longer, she commenced drinking to drown her trouble, and soon put an end to her life.

I attended a meeting one Sabbath evening in the town of Augusta, Georgia, when a fine looking young man waited on a young lady up the aisle to a seat that was in a

contiguous pew to the one in which I sat. Soon he began to spit out into the aisle. For the novelty of the thing I looked at my watch, and found that he spat ten times in two minutes. He continued it at that rate for nearly an hour, which made so large a puddle that the ladies were obliged to raise their dresses and step over, as they would step over the mud in the streets, with no very pleasant countenances. I remained to see them through their difficulty. This young man joined in singing the closing hymn like a Christian. Thought I, perhaps he is one: then looking down on the floor, said I, *no*, he cannot be. At the close of the meeting, the crowd were prevented from passing out as fast as they otherwise would, in consequence of the dirty puddle they had to ford. He became impatient waiting for his *Dulcinea*, and spoke out quite abruptly, "Where the devil is she?" Then I thought, no sign either of a *Christian* or a *gallant*.

A friend of mine, Dr. W., I am sorry to say, uses tobacco. I have repeatedly urged him to discontinue the habit. He broke off once, but says that he had all the symptoms of *delirium tremens* in its worst form; he therefore commenced chewing again as a remedy. This shows that he had not sufficient perseverance, or that his system craved and depended on an artificial stimulant, induced by a long and excessive habit.

A young man who was studying for the ministry had ~~formed~~ the habit of smoking. He had a conscience and moral susceptibility, and felt that he was doing wrong to pervert his appetite; but the sequel proved that he had not sufficient firmness in the good cause. He left off smoking, but went to chewing; then left off chewing and commenced drinking; then took to smoking again, and then to chewing; and in this way he went through all the different changes for several years, till he finally blunted his moral sense, and now does them all.

A man from Newberryport came into my office one day, who said that he was perfectly wretched, and took no pleasure in life. He blamed his father, mother, and his God, that he had been brought into existence, or had seen the light of day. I asked him what his habits were. Do you drink? No. Do you chew tobacco? Some. Do you smoke? Oh, yes, I do that to excess. He made an estimate, and told me that he smoked many thousand cigars in a year, and chewed eighteen-pence worth of tobacco per week. He *ought* to have been miserable, to have tampered thus with his vitality and nervous energies. This habit is very expensive, so much so that many consume almost their entire earnings, thus disabling them from enjoying other privileges and advantages which they otherwise would have had both the disposition and means to secure, as the following story will illustrate.

A young man from Fitchburgh wished to purchase a book on Physiology and Health, but said that he was not really able. I inquired what his salary was per year. He said one hundred and fifty dollars, with his board. I asked him about his habits—if he chewed? No. Do you smoke? Yes. How much? He said that formerly he smoked fourteen cigars a day, at about two cents for each, which made over eighty dollars per year, but that his health was so much deranged that he had reduced his allowance to seven. I told him this cost him forty dollars per year, which he expended not only uselessly, but in those things that tended to shorten his life as well as to destroy his usefulness while he lived. Scores of facts of a similar nature could be adduced that have come under my own observation, if space would allow. All prove that tobacco is a filthy and pernicious weed in every form in which it is used. I would like to say a word on a custom in vogue among the ladies in a certain section of the country, not many thousand miles from New York. I refer to the chewing and eating of snuff; but will not particularise now. I feel that the *most* good can be done in this cause by holding forth motives to induce persons who have *never formed* these habits to abstain wholly, totally from them; for it is almost an impossibility, comparatively speaking, to reform many of those who have *once* overcome the nausea and loathing which healthy stomachs at first evince when tobacco is introduced into them.

L. N. FOWLER.

Tobacco must be regarded as one of the wonders of the world. In its own nature it can only be regarded as disgusting. Those barriers which are thrown around poisonous vegetables here exist in a marked degree. Its juice is poisonous; its flavour pungent and disagreeable; its effects upon the untempered, unsubdued nerves are horrible. Sea-sickness is bad enough, but its sickings and retchings are a mere mercy to the prostration induced by the first trial of tobacco.

How should such a noxious and disagreeable substance have become a universal luxury? Besides these effects at the beginning, the use of the weed is accompanied

with continuous discomfort to all about the user. There are certain offices of the body which delicacy endeavours to shade and conceal. All the processes of secretion and excretion are disagreeable when made familiar. Yet all users of tobacco exalt these functions—and snuffing and blowing, or smoking, or reeking, or chewing and spitting, form important parts of daily duty, to the exceeding annoyance of all that are pure.

H. W. BEECHER.

GENTLEMEN—You ask me for a statement of what I know and think respecting tobacco. I have had a good deal of experience on this subject; in fact, I once smoked nearly an inch of cigar myself. It served me right, and I have never since had any inclination to outrage human nature and insult decency in any such way. I was then some six years old, and naturally aspiring to the accomplishments of manhood and gentility; but the lesson I then received will suffice for my whole life, though it should be spun out to the length of Methuselah's. I have since *endured* my share of the fumigations and kindred abominations of tobacco, but I have *inflicted* none.

I wish some budding Elia, not a slave to narcotic sensualism, would favour us with an essay on "The Natural Affinities of Tobacco with Blackguardism." The materials for it are abundant, and you have but to open your eyes (or nostrils) in any city promenade (glorious Boston excepted), in any village bar-room, to find yourself confronted by them. Is Broadway sunny yet airy, with the atmosphere genial and inviting, so that fair maidens (and eke observing bachelors) through the two shilling side walk, glad to enjoy and not unwilling to be admired? Hither (as Satan into Paradise, but not half so gentlemanly) hies the host of tobacco-smoking loafers, to puff their detested fumes into the faces and eyes of abhorring purity and loveliness, to spatter the walk, and often soil the costly and delicate dresses of the promenaders with their vile expectorations. And, even should the smokers forbear to pollute the outraged but patiently enduring flag-stones with their foul saliva, the chewers will not be far behind (as the Revelator saw "death on the pale horse, and hell following after"), industriously polluting the fair face of earth, as their precursors have poisoned the sweet breath of heaven. How long, oh! how long, must all this be suffered?

I have intimated that the tobacco consumer is—not indeed necessarily and inevitably, but naturally and usually—a blackguard; that chewing or smoking obviously tends to blackguardism. Can any man doubt it? Let him ride with uncorrupted senses in the stage or omnibus, which the chewer insists in defiling with the liquid product of his incessant labours, seemingly unconscious of its utter offensiveness; and which even the smoker, especially if partly or wholly drunk, will also insist on transforming into a miniature Tophet by his exhalations, defying alike the express rule of the coach and the sufferers' urgent remonstrances, if he can only say, "Why, there's no *lady* here." Go into a public gathering, where a speaker of delicate lungs and an invincible repulsion to tobacco is trying to discuss some important topic so that a thousand men can hear and understand him, yet whereinto ten or twenty smokers have introduced themselves, a long line projecting horizontally from beneath the nose of each—a fire at one end and a fool at the other; and mark how the puffing gradually transforms the atmosphere (none too pure at best) into that of some foul and pestilential cavern, choking the utterance of the speaker, and distracting (by annoyance) the attention of the hearers, until the argument is arrested or its effects utterly destroyed. If he who will selfishly, recklessly, impudently, inflict so much discomfort and annoyance on many, in order that he may enjoy in a particular place an indulgence which could as well be enjoyed where no one else would be affected by it, be not a blackguard, who *can* be? "Brethren!" said Parson Strong, of Hartford, preaching a Connecticut election sermon, in high party times, some fifty years ago, "it has been charged that I have said every democrat is a horse thief: I never did. What I *did* say was only that every horse-thief is a democrat, and *that* I can prove." So I do not say that every smoker or chewer is necessarily a blackguard, however steep the proclivity that way; but show me a genuine blackguard—one of the b'hoys, and no mistake—who is not a lover of tobacco in some shape, and I will agree to find you two white blackbirds.

HORACE GREELEY.

You ask for my opinion of the effects of tobacco on the human system. They are "evil, and only evil, and that continually." No one claims for tobacco that it is nutritious, or capable of being wrought into living organs. On the contrary, it is generally admitted to be a poison, and a most subtle and potent one. It acts directly upon the nerves, both of sensation and motion, and rapidly exhausts excitability.

The kind of morbid derangement or disease which tobacco will cause to be developed in those who make an habitual use of it will depend upon the condition of their physical system; those organs or parts of the body which are reduced to the lowest point of vital activity will be the first to fall into disorder under its depressing influence.

In the early part of my medical practice, when I supposed that "nature could be helped" by feeding her with poisonous substances, I had a very severe and protracted case of bilious colic to manage. After a fruitless use of a variety of means for exciting the action of the bowels, I decided on trying an infusion of the common paper tobacco by injection, well advised at the time that great caution was necessary, inasmuch as lives had been sacrificed by this mode of experimenting with this substance.

A small quantity only of a weak infusion was used, but no sooner had it reached the bowels, than the patient, who was a strong muscular man, trembled like an aspen leaf in every fibre, and turned ghastly pale; a cold, clammy sweat exuded from the surface of the body, and he seemed for a while just at the point of death.

But you will not find so much difficulty in convincing the slaves to tobacco that the service of this tyrannical master is deleterious to body, soul, and spirit, and degrading to humanity, as you will in urging them up to a point of successful effort for final and complete emancipation from such service.

With the hope that it may encourage some poor bondsman to stand up manfully and assert and maintain his freedom from so loathsome a bondage, I will give you a short account of the method of escape from tobacco servitude, by one who wore the galling yoke for more than twenty years.

In February, 1829—a memorable epoch in my eventful life—meeting on a special occasion with four or five particular friends all of us inveterate tobacco users, it was proposed that we should break off from the baneful practice, and a unanimous resolution was passed instantaneously to that effect. But my friend, fearing to take too bold a step at once, limited the positive interdiction of the use of their delectable weed, and, as a tyro in such matters might have predicted, after their respective limitations had expired, deserted their good resolutions. Bitter experience, as well as observation, had taught me that it was in vain to think of escaping from the fangs of so potent an enemy by any species of gradualism, and that for me at least it must be "neck or no joint." Accordingly, my resolution was taken to use no more tobacco while the world could stand, and my purpose was *fixed* to sustain that resolution, come life or death. The consequent breaking was by no means a light or comfortable one, but was much shorter and easier than it would have been but for the settled, immutable decree that my depraved sensibility and tobacco had for ever parted.

A few weeks after the total abstinence principle had been put in force against the use of tobacco, I dreamed I seized my large-bowled and elegant Chinese pipe—my favourite mode of indulging in the nicotinic pleasures—and soon enveloped myself in a beautiful dense cloud of curling and enrapturing tobacco fumes, which soon awakened the slumbering sensibilities and set them to revelling in all the wild ecstatic pleasures of olden times when they were actually under the inspiring influence of the maddening narcotic, and with a zest, too, that was heightened by weeks of painful abstinence; when suddenly the conviction flashed over my mind that I had broken my resolution, returned as the dog to his vomit again, strengthened the power of my relentless enemy over me, and augmented the doleful prospect of a perpetual bondage. The agony of spirits which these reflections excited threw my whole frame into violent agitation, drenched me with sweat, and broke my slumber. And oh, how sweet and consoling was the assurance that restored consciousness gave to my tortured mind that it was but a dream!

Thanks to a kind and guardian Providence, ever ready to help those who help themselves, the yoke of bondage is broken, and the oppressed is free from the tyrannic and abject servitude of tobacco. For years I have felt no more apathy for this noxious plant than I have for pigweed or skunkcabbage.

Grateful for this signal deliverance, I would fain do all in my power to aid others who are under the dominion of a strong tobacco habit to escape therefrom. Reader, if such is unfortunately your condition, permit me to commend to your special attention and unflinching application the only rational and trustworthy remedy for so formidable an evil. Adopt for your motto, IMMEDIATE EMANCIPATION AND TOTAL ABOLITION. And not only discard at once and for ever all use of tobacco, but admit of no substitute of chamomile flowers, or other substance, with a view to alleviate the horrors or sense of depression and wretchedness which will be very likely to ensue upon a disuse of

the narcotic stimulus. "The hotter the battle the sooner over." There is no danger to be apprehended from suddenly arresting the pernicious habit, no matter how long it may have been indulged, or how strong it may have waxed, nor yet how feeble the constitutional powers. The depressed or uncomfortable feelings which ordinarily flow from an abandonment of protracted or excessive stimulation result directly from a wise and provisional movement, designed and tending to restore damaged machinery to soundness and vigour. The less, therefore, it is interfered with, or embarrassed by counteracting influences, the sooner and more perfectly will the good work be accomplished.

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FRIEND SHEW—You ask my opinion of the effects of tobacco. My answer is this :—

Of all the descriptions of its evil effects, none have come up to the actual evils themselves. I have seen many disgusting pictures of the filthiness, especially of chewing, but none compare at all with the reality. Street-sweeping and sink-cleaning are incomparably less filthy than tobacco eating and smoking. The dog re-eating its vomit is disgusting, but tobacco-spittle is far more so. What a concentration of vile ness is a tobacco-puddle ! Talk about a decent man chewing tobacco ! What can be more body-defiling and soul-polluting ?

I have seen glowing descriptions of its injurious effects upon digestion, by impairing the salivary glands ; yet no description equals the reality. By scarcely any other means can the stomach be more injured, or more permanently deranged. Healthy salivary glands are as necessary to good digestion as healthy eyes to good vision. Now, this powerful stimulant, this narcotic poison, brought in almost perpetual contact with these glands, both by chewing and smoking, must, in the very nature of things, disease them. That it does disease them is evident from the very enormous quantity of saliva which it causes them to secrete. It literally WORKS THEM TO DEATH, and at the same time vitiates their product. And vitiated saliva must, in the very nature of things, impair digestion.

But if tobacco chewers could spit out, with their quids, all the effects of tobacco, less damage would be done. But these salivary glands are literally SOAKED by the day and year—aye, lifetime—in tobacco-spittle, so that the tobacco-infused saliva they manufacture during mastication of course finds its way to the stomach, deranging that organ, and through it the whole system.

It is claimed that tobacco prevents toothache. How ? If at all it is by DEADENING the nerves : that is, by benumbing their sensory or life-principle. For my part, let me suffer the painful state of any part of my system rather than have that part deadened. Tobacco-eating certainly does increase the decay of the teeth, wears them rapidly away, and keeps the mouth in a perpetually fevered, filthy, and most disgusting condition. Of all things, the MOUTH should be clean. Of all other things, the tobacco eaters' mouths are the very essence of defilement !

The breath, especially, of tobacco smokers show that their systems have become steeped in this narcotic poison. The lungs are one of those doors through which the system casts out noxious matter. Thus the system abhors alcohol, and accordingly ejects it by every breath of those who drink. From what source does the breath of smokers derive its foetid tobacco infection, or rather load ? FROM THE SYSTEM ; not from the mouth merely. It must make immense havoc of health, life, and mentality. Think of it : the entire system saturated with tobacco-essence ! That even the brain is loaded with it is evident by its opiate effects upon the feelings and intellect.

But these influences, and many like influences, are but drops in the bucket, compared with the MORAL effects of tobacco-eating and smoking. If it were merely a filthy practice, or even detrimental to digestion and circulation, and stopped there, I might remain silent, because only a minor evil. But, by a law of things, whatever depraves or vitiates the body, thereby depraves the NERVOUS system, and through it the BRAIN, and thereby the MIND. To disease any part of the body, especially the nerves, is to disease the brain, and thereby to produce a SINFUL state of mind. Mental purity is compatible only with physical health. That alcoholic liquors deprave the mind, engender corrupt feelings, and sensualise and brutalise every moral principle of the soul, is not theory, but universal OBSERVATION AND EXPERIENCE, caused by that intimacy of relation existing between body and mind. All mental depravity consists in the abnormal, perverted exercise of our mental faculties. Such perversion is the natural consequence of the physiological disorder of the brain. And all physiological disease throughout the system disorders the brain and corrupts the mind. As alcohol engenders moral depravity, so tobacco produces moral corruption, by first disordering

the physical system. Tell me a tobacco chewer is a virtuous man! I know better. He may not have broken the seventh commandment outright; but tobacco, in all its forms, causes that sinful, sensual tone or cast of the love feeling, which constitutes the very essence of licentiousness. It vitiates combativeness, and accordingly tobacco eaters and smokers are universally irritable. How do they feel before they take their quids in the morning? Snappish to their wives, churlish to their children, and cross to everybody and everything. And this is true not only before breakfast, but throughout the entire day. Tobacco produces a perpetual souring of the temper; a cross-grained, ill-natured, repelling or depraved state of combativeness.

It equally vitiates appetite, by producing a craving, corrupt state of both appetite and stomach. No man can have a healthy body, nor really enjoy food, who eats tobacco. It causes dyspepsia of body and dyspepsia of mind; that is, a diseased, gnawing, hauking, dissatisfied, craving state of all the feelings, appetites, and passions.

The influence of tobacco upon amativeness is powerful, and powerfully vitiating. No man can be virtuous as a companion who eats tobacco: for, although he may not violate the seventh commandment, yet the feverish state of the system which it produces necessarily causes a craving and lustful exercise of amativeness. Just as alcoholic liquors and the grosser forms of sensuality are twin sisters, so tobacco-eating and devilry are both one; because the fierce passions of many tobacco chewers, as regards the other sex, are immensely increased by the fire kindled in their systems, and of course in their cerebellums, by tobacco excitement. Ye who would be pure in your love instinct cast this sensual fire from you. In fact, its perverting influence upon the entire mentality accords with the love illustration just given. Mark the point! It CORRUPTS and depraves the body, and through it sensualises and sinfulness all the faculties of our being; for moral depravity consists, not in the excessive exercise of our faculties, but merely in their PERVERTED action.

The CONSTITUTIONAL effect of tobacco is to PERVERT and VITIATE the entire being, from the crown of the head to the sole of the foot, in all the ramifications of mind and functions of body.

The inquiry next turns upon the best mode of BREAKING OFF a practice thus constitutionally filthy, destructive to health, and debasing to morals. There is but one way, and that is, to resolve resolutely to QUIT AT ONCE AND FOR EVER. To break off gradually, is only to tamper with the scorpion, and be stung more deeply thereby. Cut off the snake's HEAD! "But I can't," you reply. What! Can't stop, when you know that you are perpetuating such wide-spread destruction upon mind and body? Are you such a slave to low-lived, disgusting passion, and can't give it up? Are you so pitifully weak, and own it, as that? Then no more call yourself a man! Own it, aye, that your masculine energy is not sufficient to free you from your grovelling passions. Own that you know you are doing wrong and can't stop! Then own at once, and have done with it, that you are a poor, weak THING; that your MANHOOD is emasculated, and your MORALS subjected. But you CAN break off. This one motive alone, if you will allow it its due consideration, will COMPEL you to stop—the ravages you are perpetrating upon your body and soul. You have a conscience, and you are bound, by the highest obligations of your being, to follow its dictates. And that conscience warns you never to put another quid or another cigar into your mouth, because you thereby do violence to so exalted—so great and GODLIKE a being as yourself. Think you no more of yourselves, no more of your moral purity, here or hereafter, than to defile and debase yourselves thus? Rise at once, O sunken mortal, in the high-toned dignity of moral principle. Do not break off in PART only, nor allow the lurking idea that if you can't do without it you can return to it, for such lurking will prevent the achievement of your object: but resolve, be the consequences what they may, to break off FOR EVER; for the harder it is to break off, the more you require to break off, because the more you crave it the greater the injury it has done you. BREAK off, and all the gold of California could not bless you as much as that single decision and practice. In a few days you will get habituated to do without it, and in a few weeks you will be a newly organised man—not in your physiology merely, but in your whole tone of feelings and cast of mind. A pure, virtuous, elevated, holy, aspiring state of mind will take the place of that corrupt, debased cast of your faculties which tobacco has produced, and your progress in all that is good or great will be ten-fold more rapid than it now is. By all the value you place upon yourself, then—by all the solemnity of the laws of your being—by all the authority of the direct command from God, not to do violence to body or mind, you are thereby imperatively COMMANDED



TO ABSTAIN, AT ONCE AND FOR EVER, from this body-destroying, soul-vitiating narcotic in all its forms.

O. S. FOWLER.

It is difficult to find, among the thousand ways that human beings have worked out the problem of sensual depravity, a habit more intrinsically filthy and indecently disgusting than smoking, chewing, and snuffing this noxious weed. It has ever been the handmaid of intemperance, and ranks next to alcohol in its depraving influence on the mental and physical constitution of man. It seems to be a law of perverted appetency that the more "foul, strange, and unnatural" the artificial excitant to which mankind resort, the more potent and fascinating is its spell, when once the organic sensibilities are subdued to it. The greater the resulting depravity, the stronger will the depraved appetite cleave unto the instrument of such depravity. If

"E'en from the body's purity, the mind  
Receives a secret, sympathetic aid,"

so, conversely, it is as true that the body's impurity imparts to the mind a sympathetic deprivation of its higher and nobler attributes. A man or woman thoroughly addicted to the use of tobacco, in any form, and cleanly in all personal habits in other respects, I have never seen. How can a person keep his mouth and nose, intended by God to be the recipients only of pure food, pure water, and pure air, constantly *stenchified* with the acrid juice, pungent dust, or poisonous smoke of tobacco, without deeply contaminating the whole being?

To a lady or gentleman of refined taste, the indecency of the habit is a sufficient objection. The philanthropist ought to be restrained from its use by the viciousness of its example; and the physician is bound to condemn it from its injurious effects. That its general employment in civilised society is one of the most efficient instrumentalities at work in disordering the machinery and abridging the period of human life, every intelligent physiologist knows; and it is really surprising that so many medical practitioners, who are presumed to know something of the nature of poisons, as well as of the laws of life and health, commend its use to the community by their own examples.

But, in addition to its demoralising tendency upon individuals and societies, the tobacco mania is the occasion of an immense waste of wealth—the wealth of time and money. Millions of acres of land are worse than wasted in raising it; hundreds of thousands of labourers waste their strength and energies in manufacturing and retailing it; millions of consumers are continually wasting their pocket-money and health together to keep up the abominable commerce. I have known more than one poor man who conceived himself too poor to afford his family a newspaper at three cents a week, yet who was able to smoke half a dozen cigars a day, at two or three cents each.

Like all excitants which combine stimulant, nervine, and narcotic properties, tobacco operates destructively far more rapidly upon the nervous and irritable temperaments than upon the torpid and phlegmatic. Indeed, in all constitutions, the most deadly effects of the poison are seldom seen in any particular form of disease recognised by nosologists, as much as they are experienced in a gradual exhaustion of the nervous power. I have known many young and middle-aged men, afflicted with bronchial, pulmonary, liver, and nervous affections, repeatedly improve in general health, and also in respect to the local disease, on leaving off tobacco, and as repeatedly relapse on resuming the habit. A striking case in point:—

A little more than a year ago a gentleman was boarding at my establishment, where his wife was under treatment for a paralytic affection. Though in delicate health, he was able to attend to his regular daily business in one of the banks of this city. Observing him to be troubled with a dyspeptic cough, and ascertaining that he chewed tobacco constantly, besides smoking several cigars a day in the streets, I took repeated occasion to admonish him of the stern necessity of entire abstinence from "the weed," if he wished to keep consumption off many years. He allowed that the habit was somewhat injurious, but ridiculed the idea that death was among the possible consequences. A few months after this he was the subject of confirmed bronchitis: and being suddenly prostrated by an attack of hemorrhage from the lungs, he became alarmed, and left off tobacco entirely. For three or four months his health improved, and he gained considerable flesh, when, strange to say, he took to smoking cigars again. He is now in his grave. His history is that of scores, whose cases have come under my observation.

The professor of surgery in the Vermont Academy of Medicine, in 1831, was an inveterate snuff-taker ; and the effect of the habit on his nerves and temper—rendering him peevish, irritable, and fickle—was obvious to every student. Many a time I have known him relate an amusing anecdote, in order to illustrate some point, calculated, and doubtless intended, to raise a laugh, when, no sooner was the laugh over than he took umbrage, “even at the sound himself had made,” and gave the class a sharp admonition for their levity and ill manners ! A few years subsequently he died in a lunatic asylum, from insanity, produced, as I believe, from snuffing tobacco.

It is difficult to make the confirmed “tobacconist” understand its mischievous effects upon his own organism by referring to his own feelings—they are perverted. After the habit is established, his sensibilities become so metamorphosed that he feels better with it than without it. To make him have a realising sense of the truth, he must *see* its operation upon an untainted organism ; and if he will carefully observe the operation of the first quid, or the first puff of a cigar, or the first pinch of snuff, upon any person whose senses have never been corrupted by narcotics, he will have a demonstration strong enough that tobacco properly ranks among the most virulent poisons.

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